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ABSTRACT

In the past, vocational education has made significant contributions to achieving national goals and addressing national concerns. It can continue to do so, but only if the basis for federal investment in employment-related education and training is rethought. Among those areas of national concern to which vocational education must address itself are the following: strengthening vocational education in depressed communities, meeting the nation's need for qualified workers, keeping basic programs relevant, conserving and producing energy, helping groups that need more services, and responding to the nation's equity goals. If vocational education legislation is to sufficiently respond to these needs, it must do several things, including improving, revising, and reforming vocational education; building bridges with other delivery systems; recognizing that states have different needs; providing for state governance of vocational education; and matching federal expectations and federal appropriations. Vocational education can be a broader system, effectively addressing all of the employment-related educational needs of our nation, and can provide for a true partnership of national, state, and local interests. To build upon this foundation, new legislation must establish clear goals and priorities and provide an adequate base of support for the job that must be done. (MN)

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A National Agenda for Vocational Education

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American Vocational Association

A National Agenda for Vocational Education

American Vocational Association
2020 N. 14th St.
Arlington, Virginia 22201

June, 1981

Contents

Preface. ii
AVA Legislative Study Task Force iv

Part I. The Basis for Federal Investment in Vocational Education 1
A consideration of the historical role performed by vocational education and an analysis of contemporary national concerns that can be addressed through vocational education.
- A. A Statement of Purpose for Vocational Education Legislation. . . . 1
- B. Vocational Education's Role in Responding to National Priorities . 3

Part II. Addressing National Concerns Through Vocational Education. 5
A discussion of several areas of national concern, identifying policy alternatives and listing specific recommendations to develop vocational education's capacity to contribute to solutions.
- A. Strengthening Vocational Education in Depressed Communities. . . . 5
- B. Meeting the Nation's Need for Qualified Workers. 13
- C. Keeping the Basic Programs Relevant. 19
- D. Conserving and Producing Energy. 27
- E. Helping Groups that Need More Services 31
- F. Responding to the Nation's Equity Goals. 40

Part III. Practical Problems Facing Vocational Education 50
A discussion of critical items needed in the reauthorized vocational legislation to sufficiently address the national concerns identified in Part II.
- A. Improving, Revising and Reforming Vocational Education 50
- B. Building Bridges with Other Delivery Systems 55
- C. Recognizing that States Have Different Needs 60
- D. State Governance of Vocational Education 64
- E. Matching Federal Expectations and Federal Appropriations 68

Part IV. An Improved Approach to Employment-Related Education and Training. . .72
A summary of the effects of present efforts to address severe training needs and economic problems and a recommendation for a change in policy.
- A. Preparing for Reindustrialization. 73
- B. A Legislative Framework. 74

4

Preface

The American Vocational Association (AVA) has engaged in an extensive study of vocational education in preparation for making recommendations for the 1982 reauthorization of the Vocational Education Act. One hundred leading vocational educators from around the country, joined by representatives of business, industry and labor, formed ten legislative study teams whose leaders then operated as a task force to synthesize the findings, observations and recommendations into a national agenda which is recorded in this summary report. The report highlights the potential contribution of vocational education to selected national goals and concerns.

The teams studied the following topics:

- The basis for federal investment in vocational education
- Basic state grant programs
- Special populations
- Youth and adults
- Programs of state and national improvement
- Planning and evaluation
- Sex equity
- Financing vocational education
- Administration of vocational education
- Consumer and homemaking education

Attention was given to the ways in which contemporary social, economic, technological and educational changes may influence the future course of vocational education.

Many persons, groups and organizations contributed to the study by reading drafts, answering questions from team members and offering diverse points of view as the study progressed. The report thus represents the varied views and concerns held by the American public about the potential of vocational education to address certain national priorities.

The teams found that vocational education has been perceived as a basic right for the nation's citizens. Yet this right has been neglected and poorly supported. Vocational education has been fractured in its administrative structure, unnecessarily arbitrary and often diminished by discrimination. Limited opportunities for the poor and disadvantaged to enroll in appropriate programs have meant inadequate development of human potential and poor career choices.

During the last decade, federal programs of employment-related education and training have been largely linked with the welfare needs of the poor. Despite explicit goals of reducing discrimination, many of these programs have had the effect of resegregating American society. The nation needs to adopt new concepts of absorbing disadvantaged people into the mainstream, in institutional as well as individual terms, to guard against the creation of a permanent underclass.

In the past, vocational education has made significant contributions to achieving national goals and addressing national concerns. It can continue to do so, but only if the basis for federal investment in employment-related education and training is rethought. Currently, there is a mismatch between public expectations and the effects of federally sponsored programs.

The institutional structure for employment-related education and training, including vocational education and the Comprehensive Employment and Training Act, is weak. Coordination of present efforts is not a solution. A new approach must be developed.

This task force summary report offers new ways to think about a number of issues important in the reauthorization of federal employment-related education and training legislation. It reflects the task force's efforts to synthesize and to interpret the views of many people with the language of few. Errors of omission or commission are solely the responsibility of the task force.

Legislative Study Task Force

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*Orville Nelson served as overall coordinator, summarizing and synthesizing the teams' exhaustive reports and writing the bulk of this document

PART I.

The Basis for Federal Investment in Vocational Education

A. A Statement of Purpose for Vocational Education Legislation

The primary purpose of federal vocational education legislation is to enable the federal government to cooperate with the states in improving and expanding quality employment-related education and training, including programs of homemaking, which provides individuals with the skills that will contribute to economic stability, enhances local, state and national economies and addresses other appropriate national concerns. This purpose enables states to:

- Support and strengthen the relationship between education and work, and work and education, by encouraging states to accept their constitutional responsibility for quality employment-related education and training through authorizing legislation;
- Maintain the capability to respond quickly to short-term and long-term demands for strengthening national defense;
- Address the national concern for improved productivity in the workplace;
- Use quality vocational education for attracting, creating or retaining jobs in economically depressed areas;
- Develop an education-and-training response for conserving, generating, converting and utilizing energy; and
- Focus on the goal of full employment, including self-employment, by addressing the need for a qualified, motivated, and responsive supply of labor.

To accomplish this purpose, the federal legislation shall authorize federal grants to states to support their cooperation with agencies and institutions of the states to:

- Make quality employment-related education and training available, along with the freedom to choose such education, to persons of secondary school age or above, in all communities of the state, who are in school or have interrupted, discontinued or completed formal education and need preparation to enter the labor market; and those who have partially or fully entered the workforce, but need to update, upgrade or alter work-related skills and are served by secondary schools, post-secondary institutions, adult programs, and work-site training;

- Initiate, extend, keep current and improve the scope and quality of employment-related education and training;
- Strengthen the capacity of communities and institutions to provide quality vocational education;
- Conduct quality employment-related education programs that can address forms of discrimination or disadvantagement related to sex, race, age, national origin, physical or mental handicap, educational and economic status, and geographic location;
- Provide necessary additional programs and services including, but not limited to, guidance and counseling and technical literacy skills; and cooperate with appropriate agencies for other needed services, such as health care and financial aid, for those who need such services to gain access to and make reasonable progress in the pursuit of quality employment-related education and training. Individuals and groups will thus have access to and the freedom to choose programs that will prepare them for projected or anticipated work roles suited to their needs, interests, abilities and the conditions of the employment market.

B. Vocational Education's Role in Responding to National Priorities

Vocational education has a long history of helping the nation address national priorities. As the federal government makes long-range plans for dealing with significant national problems, it is helpful to examine vocational education's potential contribution to solutions. Vocational education is pertinent to seven major national concerns:

1. Human Development Our economic strength receives much of its impetus from the creativity, know-how and talent of each of its citizens. Vocational education provides the mechanism to improve the capability of each individual to prepare, adjust and make progress in relation to his or her work life environment and to improve the capacity of the environment (including the community, work-setting, family, etc.) to use an increasing array of individual skills and abilities for realizing individual and collective goals. As individuals develop their potential through vocational education, they develop a standard against which to measure their own abilities and performance. In addition, vocational education provides an overall view of how each individual's work contributes to the society as a whole, which can engender pride in work and a sense of purpose for each individual. The comprehensive nature of vocational education enables people to develop a wide range of talents and interests. For these reasons, vocational education represents one major avenue through which the federal government can contribute to human development.

2. Productivity and Economic Revitalization The economy continues to face serious challenge as American products are less and less competitive in the international market. The inflation rate continues to rise, in part because there has been a steady decline in the rate of productivity. A skilled workforce is one of the basic elements in increased productivity and economic revitalization. The in-place comprehensive system of vocational education is a rich national resource for the preparation of new and existing workers for a resurgent economy.

3. Full Employment Since Congress enacted legislation setting 4 percent maximum unemployment as a goal, both inflation and unemployment have been unresponsive to federal efforts. The primary instruments of the federal intent have been public service jobs programs and limited, short-term training for those who are most severely disadvantaged. The consequence has been that too many people are competing for bottom-level jobs and too few people have acquired the skills needed for the middle range of skilled jobs. This situation has contributed to long-term job vacancies, wage inflation, declining productivity and the inability of business and labor to meet production demands.

Vocational education can work towards the goal of full employment by helping people in entry-level jobs improve their skills so that they can move up the job ladder. At the same time, it has the capacity to train new workers from the ranks of the unemployed to fill the vacated entry-level slots.

4. Economic Development of Depressed Communities Federal initiatives to facilitate job creation and job retention in depressed communities include building or relocating federal installations, creating public service jobs, improving local services such as roads and sewers and developing vocational education facilities. The availability of vocational education to provide education and training for new and existing jobs is a proven incentive for business and industry to remain or expand with new plants in such communities.

5. Equality of Opportunity Our nation is committed to the goal of providing all people with the opportunity to develop their individual talents to their fullest potential. Pursuing this goal depends to a great extent on every citizen's ability to function in the workplace. Vocational education can provide the skills, work orientation, and discipline that are necessary to successful employment. But equal occupational opportunity through education depends on all persons having easy access to vocational education that is in tune with job opportunities, work-setting expectations and individual talents and motivation.

6. Energy Conservation and Generation Efforts to make America energy self-sufficient will have an enormous impact on the nature of existing work and on employment demand during the 80s. Therefore, vocational education must be closely tied to energy policy. To contribute adequately to national energy goals, vocational education must have the capability: to immediately convert new energy-related inventions into curriculums and instruction in appropriate vocational education programs; to develop new vocational education programs for preparing people for new energy jobs; to expand existing programs to meet the demand for skilled workers in the new fields; and to aid communities in achieving energy conservation.

7. Maintenance of Defense Capability The maintenance of a strong defense capability is clearly a federal responsibility. But defense capability is not determined solely by the size of the military force. It is also determined by the quality of technical skills of the men and women who serve in the active and reserve forces and by the capacity and capability of the nation's training system to provide defense industries with skilled workers and to respond to national emergencies. There must be a guarantee that vocational training capacities will not deteriorate below the levels needed for defense.

Vocational education can contribute much toward the nation's defense capability if it is given a clear charge and the necessary resources, for it is a system that is already in place and ready to respond quickly, effectively and efficiently.

PART II.

Addressing National Concerns Through Vocational Education

How can vocational education contribute to the solution of national problems? The answer can be found by examining certain areas of concern, identifying policy alternatives and suggesting practical measures which can develop the capacity of vocational education to carry out national goals.

A. Strengthening Vocational Education in Depressed Communities

There is a significant and growing need to attack the conditions that cause most of our large cities and many of our rural areas to be economically depressed. Aging industrial plants that are no longer competitive, large numbers of unemployed workers with very specialized skills, high levels of unemployed youth--especially minority youth--and the flight of businesses to more attractive settings have caused major problems for our older cities. Many rural communities have lost much of their economic base as a result of changing technology in agriculture, which requires fewer workers, larger farms and more sophisticated equipment.

Communities that demonstrate that they can provide employers with competent workers will strengthen their hold on existing jobs and attract new jobs. Small companies which provide the bulk of new jobs in America do not have the capacity to do in-house training. They depend upon the public institutions that their tax dollars support to provide skilled workers.

Today's inner city and economically depressed rural communities cannot reduce the flow of the unskilled into the labor market. Industry will not consider such communities good places for expansion until they can upgrade and update their existing workforce and until they have the capacity to increase the number of youth who enter the labor market with a broad array of skills--literacy, work orientation, interpersonal, employability and technical know-how.

America's economically depressed communities are those with the least capacity to provide occupational and employment-related education to all who need and want it. Yet many federal programs encourage such communities to capture more federal dollars for transitory goals, rather than make the kind of investment that would help strengthen their capacity to mount prevention and rescue programs to develop their citizens.

In Small is Beautiful, E.F. Schumacher wrote:

> ...the primary causes of extreme poverty are in certain deficiencies in education, organization, and disciplines. Development does not start with goods; it starts with

> people and their education, organization and discipline....[D]evelopment...requires a process of great subtlety. Organization does not jump. It must gradually evolve to fit changing circumstances and much the same goes for discipline. All three must evolve step by step and the foremost task of development policy must be to speed this evolution.

Schumacher's observation suggests that a "quick-fix" approach to curing the ills of a depressed community--where people are socially disorganized and are poorly educated by weak schools--is likely to weaken further the basic community and institutions and to accelerate deterioration. A program of assistance to depressed communities will succeed only if it provides the long-range means to develop in citizens intelligence, skills and values for work and quality of life. Such a program would be built on the assumption that community development and human development are complementary.

Recent data shows that those communities with the greatest need have the least capacity to provide employment-related education and training (Tables 1-4). Tables 1 and 2 reveal that central cities with a metropolitan population over 500,000 have only 10.6 percent of secondary training stations and 13.3 percent of postsecondary training stations, but 22.8 percent of the population. Towns or regions under 25,000 have only 6.7 percent of the postsecondary training stations, but 23.6 percent of the population.

Tables 3 and 4 suggest that depressed communities have lagged in the development of modern vocational education training stations over the last decade-and-a-half. Although central cities and suburbs with over 500,000 people have 60.8 percent of the population, from 1967 to 1976 only 13.7 percent of new secondary and 15.5 percent of new postsecondary vocational education facilities construction and addition projects took place there. While they have 23.6 percent of the population, rural areas under 25,000 received only 9.7 percent of the postsecondary projects.

Table 1

Distribution of Institutions and Instructional Stations in Secondary Schools Population

Population Region Type	Institutions Number	Institutions (Percent)	Instructional Stations (Percent)	Population (Percent)
Central City, Metropolitan Population over 500,000	453	8.1	10.6	22.8
Suburb, Metropolitan Population over 500,000	597	10.7	13.5	38.0
Central City, Metropolitan Population 100-500,000	368	6.6	8.2	8.9
Suburb, Metropolitan Population 100-500,000	277	5.0	6.1	3.6
City or Town Population 25-100,000	958	17.3	21.4	3.1
Town or Region Population 0-25,000	2,402	43.2	34.5	23.6
Service Area not Elsewhere Classified	505	9.1	5.7	NA
Total	5,560	100.0	100.0	100.0

Source: National Study of Vocational Education Systems and Facilities, Vol. 1, Technical Report, WESTAT, Inc., October, 1978.

Table 2

Distribution of Institutions and Instructional Stations in Postsecondary Schools Population

Population Region Type	Institutions Number	Institutions (Percent)	Instructional Stations (Percent)	Population (Percent)
Central City, Metropolitan Population over 500,000	103	9.3	13.3	22.8
Suburb, Metropolitan Population over 500,000	110	10.0	10.5	38.0
Central City, Metropolitan Population, 100-500,000	102	9.3	17.1	8.9
Suburb, Metropolitan Population 100-500,000	33	3.1	2.9	3.6
City or Town Population 25-100,000	197	17.8	15.5	3.1
Town or Region Population 0-25,000	115	10.5	6.7	23.6
Service Area not Elsewhere Classified	440	40.0	34.0	NA
Total	1,100	100.0	100.0	100.0

Source: National Study of Vocational Education Systems and Facilities, Vol. 1, Technical Report, WESTAT, Inc., October 1978.

Table 3

New Facility Construction and Additions from 1965-1976
-Secondary-

Population Region Type	Number of Projects	Percent of New Projects	Number of Institutions	Percent of Total Institutions
Central City, Metropolitan Population over 500,000	83	4.3	72	4.6
Suburb, Metropolitan Population over 500,000	201	10.4	159	10.1
Central City, Metropolitan Population 100-500,000	147	7.6	108	6.9
Suburb, Metropolitan Population 100-500,000	105	5.4	84	5.6
City of Town Population 25-100,000	371	19.2	299	19.1
Town or Region Population 0-25,000	702	36.3	597	38.0
Service Region Not Elsewhere Classified	325	16.8	248	15.7
Total	1,934	100.0	1,567	100.0

Source: National Study of Vocational Education Systems and Facilities, Vol. 1, Technical Report, WESTAT, Inc., October, 1978.

Table 4

New Facility Construction and Additions from 1965-1976
-Postsecondary-

Population Region Type	Number of Projects	Percent of New Projects	Number of Institutions	Percent of Total Institutions
Central City, Metropolitan Population over 500,000	81	6.7	42	6.9
Suburb, Metropolitan Population over 500,000	107	8.8	54	8.9
Central City, Metropolitan Population, 100-500,000	114	9.4	53	8.9
Suburb, Metropolitan Population 100-500,000	34	2.8	17	2.8
City or Town Population 25-100,000	232	19.2	120	19.5
Town or Region Population 0-25,000	118	9.7	54	8.9
Service Region Not Elsewhere Classified	530	43.4	270	44.1
Total	1,216	100.0	610	100.0

Source: National Study of Vocational Education Systems and Facilities, Vol. 1, Technical Report, WESTAT, Inc., October, 1978.

There is evidence to suggest that depressed rural areas are particularly discriminated against. According to a report published by the National Institute of Education, federal procedures have been established with no recognition of demographic differences related to size among recipient agencies. This can clearly result in inequities in atypical communities. A community, for instance, might be too isolated for easy access to an area vocational center; it might have too low a concentration of handicapped students to pay for special equipment; it might be a poor agricultural community with low-paid, underemployed farmers who do not qualify as "unemployed." In such communities, the nature of the rural economy, the sparse population and widely separated settlements are often in conflict with the concept of the area school and job-specific occupational training. Rural communities need greater flexibility to design broad-based skill programs and to make greater use of work-site training and other innovative approaches suited to their own environment.

Two criteria are specified by the current law to be given primary consideration: the relative wealth of the district and the concentration of low income families. Study after study has shown a low correlation between property wealth and median family income. Rural property values, particularly in the east, have been inflated in anticipation of the migration of both people and industry out of the cities. "Concentration of low-income families" is determined by the number of persons applying for some form of state or federal assistance. Since offices are less accessible in rural areas, there are often undercounts.

Another criterion, unemployment rate, is historically underestimated in rural areas, where there are high proportions of self-employed persons, a high incidence of underemployment (or farmers needing a second job for subsistence), or many people dropping out of the job market because they know there are no jobs available.

Since equipment tends to be costly for vocational education, some minimum enrollment level is required to justify the investment. Small enrollments may not reach the critical mass necessary to capitalize a given expenditure or to support an instructor capable of highly specialized instruction. Therefore, even funding that is "fair" in terms of per-pupil allotments may not give the rural vocational education student opportunities equivalent to those of students in more populated areas.

The success of vocational education programs in depressed communities depends on attracting competent staff. Short-term manpower programs with pickup instructors will not enable disadvantaged people to enter the primary job market. Such individuals need qualified instructors to give them training which connects school and work over an extended time period.

The 1976 Vocational Education Amendment mandates state and local matching of all of the excess costs for target populations, a requirement which many state and local agencies already perceive as a financial hardship. The excess costs of providing special services tend to be much higher in sparsely-populated areas; therefore, it is more cost-effective and simpler for the state to direct funds only to districts that have sufficient numbers of students to permit matching.

Policy Issues for Vocational Education in Depressed Communities

- Should federal funds be used primarily to mount preventive and rescue programs aimed at developing people for private sector employment, or should they be used primarily for income transfer programs which sustain people in a state of failure?
- Should federal funds be appropriated for long-term as well as short-term solutions?
- Should federal programs support efforts to serve the poor in mainstream programs, or should federal funds be used to resegregate them?
- Should federal programs provide support for people and institutions that prepare people for work, or should they emphasize providing funds for people to purchase services?

Recommendations

1. Mainstream Programs Target money on depressed urban and rural communities to strengthen mainstream programs of vocational education that develop the potential of individuals from all socio-economic levels to enter and to progress in work. This money should provide employment-related education and training for youth to reduce the flow of unskilled workers into the labor market, for current workers who need to upgrade and update their skills and for stipends and other support services for those who need them to engage in training.

2. Serving the Unserved Use federal programs to serve in-school and out-of-school youth in specialized vocational programs and adults who seek vocational training. For out-of-school youth and adults, provide facilities, equipment and services to include work assessment centers, counseling, health care and child care. Allocate funds to build facilities where the greatest need exists and to promote improved collaboration among all agencies that provide human services.

3. Community Collaboration Provide a mechanism to allow depressed rural and urban communities to tailor vocational education programs to fit their own needs. The new legislation should assure that such programs have staffs responsive to the community and that institutions have the continuing ability to collaborate with business, industry and labor to deliver programs to update and upgrade existing workers.

4. Staff Support Use federal resources to aid in attracting, preparing and retaining competent vocational education teachers, administrators and support personnel. In addition to being competent, these individuals need to have a personal stake in the development of their communities. Minority sutdents, for example, aren't going to attend and use programs administered and taught by an all-white staff.

5. Customized Training Make federal grants available to deliver customized vocational training service to existing, expanding or new industries in depressed communities. Such grants should support staff with the expertise to design and deliver programs tailored to industry, so that vocational education can contribute to economic development.

6. Improved Institutional Capacity Target money to allow depressed areas to build and equip institutions to meet the needs of industry and business. Provide a mechanism to ensure a role for employers and labor in shaping these institutions.

7. Rural Areas Target federal funds to help isolated rural areas develop and offer employment-related education and training programs which will facilitate economic development. These funds should be used to provide facilities, equipment and staff, and to develop and use work-site training stations. The new legislation should establish criteria for allocating funds among states and within states to compensate for the higher per pupil costs in rural areas.

8. Strengthening Depressed Communities Include consumer and homemaking education as part of the vocational program in depressed areas. In such communities, one often finds violence, child abuse, many pregnant teenagers, and many women employed in low-paying positions or who are underemployed and on welfare. To change these conditions so that persons can adequately perform in vocational education and in the labor market, the quality of life must be improved. Support Family Life Centers to increase competencies in living skills related to consumer problems, management of resources and activities, nutrition education, parenting, child care, coping and improving one's self concept, thus increasing the potential for both females and males in depressed areas to succeed in vocational education.

Summary

Federal policies should direct funds toward long-term solutions of the problems of economically depressed communities by developing and sustaining the capacity of each such community to prepare those in need of vocational education in mainstream institutions which can ready them for unsubsidized and/or private sector employment. While economically disadvantaged individuals will need financial support while pursuing job-specific training, the kind of support should not be so great that it becomes a disincentive to pursuing unsubsidized employment.

B. Meeting the Nation's Need for Qualified Workers

During the past decade, manpower policies have mixed the management of welfare, local government services and job training and have focused resources upon hard-to-train people, public service jobs and short-term training. The primary goal of the local manager in charge of a public service job program is to sustain the program, not to develop the individual for unsubsidized employment. Public service employment places people at the lower end of the job ladder and often leaves them unemployed when the public support ends. They have not been trained to move into the growing number of mid-level jobs in the skilled trades, technical fields and office occupations. The concentration on short-term programs for hard-to-train people has meant little or no money available to expand and develop new long-term programs to prepare people for hard-to-fill jobs.

These policies have created a job mismatch. At a time when work in America is becoming more technical, the number of young people entering the labor market without adequate preparation is far greater than the number of jobs available to the unskilled.

In 1950, 34 percent of all jobs were available to young people entering the labor market without a high school diploma. By 1970, only 8 percent of the jobs were open to the 26 percent of American youth with 11 years of school or less. In the future, even a smaller percent of jobs will be open to those who have not graduated from high school.

Evidence that existing federal policies are not working is reflected in unemployment statistics. In any given month, the burden of unemployment falls most heavily upon the unskilled. There are jobs, but the unskilled cannot fill them.

The Wall Street Journal reported on July 31, 1980 that in the month of June the adjusted index of help-wanted advertising rose to 115 (1967 equals 100), up 3 percent from May. Today we have a real paradox: on the one hand we have employers bidding against each other for skilled workers and on the other hand we have high unemployment. And what of the future? A look at the job demands of the 1980s suggests that the gap between the unemployed and the jobs available will widen unless appropriate training is available.

Tables 5-7 project the fastest growing jobs, the jobs with the most openings and the change in employment by major occupational group for the years 1978-90. An individual can prepare through vocational education for 18 of the 26 fastest growing jobs and 22 of the 27 jobs with the greatest number of potential openings. The anticipated demand during the 1980s will be for workers with a high school education, a mastery of basic skills and some technological knowledge and skills. Although job opportunities may grow faster than the labor force, unemployment will not necessarily decline. The reason: many new workers will not be properly prepared for the available jobs.

Table 5

Fastest Growing Jobs, 1978-90

Occupation	Annual Openings
*Bank Clerks	45,000
Bank officers and financial managers	28,000
*Business machine repairers	4,200
City managers	350
*Computer service technicians	5,400
*Construction inspectors	2,200
*Dental assistants	11,000
*Dental hygienists	6,000
Dining room attendants and dishwashers	37,000
*Flight attendants	4,800
*Guards	70,000
Health service administrators	18,000
*Homemaker-home health aides	36,000
*Industrial machinery repairers	58,000
*Landscape architects	1,100
*Licensed practical nurses	60,000
*Lithographers	2,300
*Nursing aides, orderlies, and attendants	94,000
Occupational therapists	2,500
*Occupational therapy assistants	1,100
Physical therapists	2,700
Podiatrists	600
*Respiratory therapy workers	5,000
Speech pathologists and audiologists	3,900
*Teacher aides	26,000
*Travel agents	1,900

Note: For these occupations, employment in 1990 is projected to be at least 50 percent higher than it was in 1978.

Table 6

Jobs with the Most Openings, 1978-90

Occupation	Annual Openings
*Secretaries and stenographers	305,000
*Retail sales workers	226,000
*Building custodians	180,000
*Cashiers	119,000
*Bookkeeping workers	96,000
*Nursing aides, orderlies, and attendants	94,000
*Cooks and chefs	86,000
Kindergarten and elementary teachers	86,000
*Registered nurses	85,000
*Assemblers	77,000
*Waiters and waitresses	70,000
*Guards	70,000
*Blue-collar worker/supervisors	69,000
*Local truck drivers	64,000
*Accountants	61,000
*Licensed practical nurses	60,000
*Typists	59,000
*Carpenters	58,000
*Industrial machinery repairers	58,000
Real estate agents and brokers	50,000
*Construction laborers	49,000
Engineers	46,500
*Bank clerks	45,000
Private household workers	45,000
*Receptionists	41,000
*Wholesale trade sales workers	40,000

Note: Replacement needs and growth are projected to cause these occupations to offer the largest numbers of openings. Competition for openings will vary by occupation.

*Starred items indicate fields in which vocational education is available.

Source: Occupational Outlook Quarterly, Spring, 1980.

Table 7

Projected Change in Employment by Major Occupational Group, 1978-90
(in thousands)

Occupational Group	Employment			Openings		
	1978	Projected 1990	Percent Change[1]	Total	Growth	Replacements[2]
White-collar workers	47,205	58,400	23.6	36,800	11,200	25,600
Professional and technical workers	14,245	16,900	18.3	8,300	2,600	5,700
Managers and administrators, except farm	10,105	12,200	20.8	7,100	2,100	5,000
Sales workers	5,951	7,600	27.7	4,800	1,700	3,100
Clerical workers	16,904	21,700	28.4	16,600	4,800	11,800
Blue collar workers	31,531	36,600	16.1	16,200	5,100	11,100
Craft workers	12,386	14,900	20.0	7,000	2,500	4,500
Operatives except transport	10,875	12,500	15.0	5,600	1,600	4,000
Transport operatives	3,541	4,100	16.2	1,700	600	100
Nonfarm laborers	4,729	5,100	8.1	2,000	400	600
Service workers	12,839	16,700	29.9	12,200	3,800	8,400
Private household workers	1,162	900	-23.2	500	-300	800
Other service workers	11,677	15,800	35.2	11,700	4,100	7,600
Farm workers	2,798	2,400	-15.9	1,300	-400	1,700
Total	94,373	114,000	20.8	66,400	19,600	46,800

[1] Calculated from unrounded figures

[2] Due to deaths, retirements, and other separations from the labor force. Does not include transfers out of occupations

Source: *Occupational Outlook Quarterly*, Spring, 1980

The U. S. Department of Labor estimates that there will be an average of 5.5 million job openings annually through 1990. Nearly 20 million jobs will be new and the remaining openings will be replacements. Some shifts in vocational education enrollment patterns will be required to assure that program completers will be trained in areas of demand. Often change is slow because it is cheaper to continue out-of-date programs than to close them and open new ones; new vocational programs require new capital investment. Yet it is in the nation's interest to have workers prepared in fields where there are opportunities for employment.

Many American industries have recently had to import tool and die makers. In the American Technical Education Journal (April, 1980), D. B. MacDermott of Revere Copper and Brass comments that apprenticeship is producing only a small portion of the skilled toolmakers, patternmakers, machinists and other craftsmen needed. He continues:

> The final crack in the foundation of our existence comes with the realization that the vast bulk of the highly skilled craftsmen in industry today are those who entered our factories just after World War II. The youngest are in their early 50s. They have begun to retire; and, within the next decade, aging alone will take from us between a half and two-thirds of our best mechanics.

A significant number of tool and die makers, patternmakers and other highly skilled and technically trained persons will be needed to retool our industries and make American products more competitive with those produced by the Germans and Japanese.

A new study, "Science and Engineering in the 1980's and Beyond: A Report to the President," warns that the U.S. faces immediate shortages of engineers and computer professionals. The report points to a trend "towards virtual scientific and technological illiteracy" in the population at large and a declining emphasis upon science and math in the schools which reduces the pool from which the nation's technical manpower can be drawn. These findings have implications for national security, the economic well-being of the nation and vocational education in the coming decade.

Many companies, both large and small, look to institutions with comprehensive vocational/technical training know-how to upgrade their workforce so they can replace those retiring and fill new advanced-skill jobs which result from retooling their manufacturing process. This need is especially great among small employers who lack the resources or expertise to train their employees.

Many companies are attempting to be more efficient and to increase the productivity of their workers and lower costs through more extensive use of modern technology in handling information. However, their development has been slowed by a lack of trained people. Frederic G. Withington discusses this problem in the July, 1980, issue of Datamation:

> People must be available. Creating a new system of management organization is one thing; manning it is another. Given the current job market and the requirement that many of the people have intimate knowledge of the end-users' needs, many organizations have resigned themselves to postponing the acquisition of novel systems until they have had time to internally develop the key people to cope with them.

Withington also notes that the competition for the pool of trained people in this field is intensive and has driven the salaries for these jobs up faster than the average rate of salary increases.

Policy Issues for Meeting the Nation's Need for Qualified Workers

- Should federal programs focus on short-term training or should federal funds also provide appropriate support for intensive, long-term training designed to equip persons to enter advanced-level employment?
- Should the federal government only fund programs for the hard-to-train or should it also provide support for training for hard-to-fill jobs?
- Should federal programs only fund on-the-job training or should federal resources be available for vocational programs that combine on-the-job and institution-based training?
- Should federal programs support only public sector employment-related training and education or should they encourage a combination of public and private sector programs?

Recommendations

1. Serving Employers Encourage vocational education institutions to serve small and large employers by providing the vocational training for workers which employers need to be competitive. The new legislation should provide the mechanism for vocational education institutions to offer tailor-made, in-plant programs for retraining employees and displaced workers. Resources should be allocated for vocational education staff to help management and labor identify training needs, design training and provide training opportunities to match these needs.

2. Hard-to-Fill Jobs Provide enough flexibility and resources to enable programs of vocational education to prepare workers for jobs identified by the Employment Service as critical and hard-to-fill. This capability must include mounting special "quick-start" vocational programs to respond to critical needs in a community.

3. Keeping Pace with Business and Industry Provide support to extend current programs and develop new ones to allow vocational education to keep pace with changes in business and industry. New programs should be tied to current and projected employment demands.

4. Long-Term Training Emphasize long-term training programs which develop advanced technical and skilled workers, including follow-through training of two-to-four years following entry into employment. This will enable vocational training institutions to aid an industry to develop its graduates to the advanced level. The legislation should encourage linkage between vocational education and apprenticeship programs and other patterns that link institutional preparation with on-the-job training. The intent of such long-term programs is to help individuals acquire the level of skills and proficiency required for those primary skilled jobs in which the nation has a potential shortage.

5. Converting New Information into Working Knowledge Provide a mechanism for vocational educators to aid in the revitalization of the American economy by mastering and teaching developing technologies. The new legislation should lead to equipping over 1 million new workers annually and millions more adults with new occupational and technical skills; mounting new programs for high technology jobs and expanding and updating existing programs; and assisting employers to determine and develop the competencies that their workers need.

The new legislation should also contain a mechanism to permit vocational education to shorten the time between the development of new know-how and its adoption by workers by giving vocational educators the capacity to stay abreast of latest inventions and technological improvement; convert new information into curriculum and instructional materials; keep vocational education programs current; have the latest instructional media to convey new knowledge and skills pertaining to new inventions and technology; and provide instruction to currently employed workers.

6. Raising the Technological Literacy of Vocational Graduates Provide support for a series of programs designed to improve the scientific and technological literacy of teachers in selected vocational education programs.

Summary

Federal investment cannot be limited to just the hard-to-train, but must be expanded to prepare individuals for critical mid-level and hard-to-fill skilled jobs. A community's vocational education resources cannot be limited to pre-employment training, but must be used to serve local employers by preparing their workers to cope with changing work requirements.

C. Keeping the Basic Program Relevant

Vocational education faces two major problems in keeping its basic program current during this decade. First, it must keep its staff, curriculums and equipment up-to-date with present technology. Second, it must then keep pace with the dramatic changes that are projected for the workplace.

Declining productivity is one of the major problems faced by this nation. A review of any newspaper, business magazine or financial journal will disclose one or more articles on the decline in productivity of our workforce and how this decline affects inflation and unemployment. The 1980 report of the Joint Economic Committee pointed out that from 1947 through 1965 productivity in the private sector grew by more than 3 percent each year. Between 1965 and 1973, the growth rate slowed to slightly more than 2 percent. Since 1973, the rate of increase in productivity has been only a little more than 1 percent. The report warned:

> Although our working men and women still outproduce foreign workers, the gap is closing quickly; if present trends continue, German and French workers will be outproducing us within six years; Japanese and Canadian workers will follow soon thereafter. Major gains in our standard of living could have been obtained if our productivity performance had been better.

Several factors influence productivity. Some of these are:

- Advances in knowledge resulting from research and development;
- Amount of capital available for each worker;
- Impact of government regulations;
- Skills and knowledge of the labor force; and
- Level of sophistication of machinery.

Analysis of the data and trends for the past decade indicates that the first three of these factors had a negative influence on our productivity. The Joint Economic Committee report states that the increased skills and competency of the labor force helped to retard the slide in productivity.

Discussion in the country today is focused on ways to revitalize the nation's business and industrial base and increase productivity. Industry has to become more energy efficient and obsolete equipment must be replaced. Human resources must be improved through job-relevant vocational and technical education.

Many manufacturing and service enterprises have already responded to the need to increase productivity. Our car manufacturers are retooling to use more sophisticated production technology and at least two of the major producers are more directly involving their production line workers in designing and modifying manufacturing processes.

Many firms are considering major changes in how they acquire, process and store information. A study by Booz-Allen and Hamilton concluded that by 1985 office automation could save 15 percent of the time used by managers and other professionals to complete projects. In addition, modern communication and information-processing technology is being installed in many offices to reduce response time and errors.

Reindustrialization, new technology and new equipment will place a major burden on vocational and technical education, for they will require a massive infusion of new equipment into existing programs. New programs will need to be developed to prepare the workforce for high-technology jobs. In addition, vocational and technical teachers will need inservice training, and programs that prepare vocational and technical teachers will have to be revised.

Because of the nature of vocational education, providing quality programs has a significantly higher cost factor than do other educational programs. Federal vocational education legislation through the years has been very successful in stimulating local investment in vocational programs. At the present time, state and local funding is about nine times more than the federal funding provided for vocational education. In most states, the major source of funding is at the local level.

Although the interest and concern for providing quality vocational education programs continues at the local level, there are increasing barriers to continued heavy local investment. In some instances states have used federal funds to maintain vocational education programs. In such instances, federal funds are first added into the maintenance cost and the remainder of funds needed are appropriated from state and local sources. In many cases, this practice has caused deterioration, because the funds are not used to keep the instructor, curriculum and instructional media up-to-date.

Meanwhile, inflation has been consistently reducing the amount of services, materials and equipment which can be purchased with available budgets. The costs of energy, instructional materials, teachers' salaries and equipment have increased dramatically during the past decade. Most school budgets have not increased as rapidly.

Problems at the local level have been further compounded by the requirements in the last vocational education legislation. The set-asides for special target groups and the excess-cost matching requirements have tied up much of the new state and local money for vocational education.

In many instances this increased financial burden has prevented local agencies from developing and expanding programs for target groups. However, it has also meant that there has been little, if any, money to replace equipment, improve the basic program and counter forces of inflation. Because staff salaries have fallen significantly below those in business and industry, each year sees a flow of vocational teachers out of the classroom and back into private employment. With all of these constraining influences and the fact that vocational education costs more, there has been a noticeable trend for local schools to either reduce the quality of their vocational programs or cease to offer them.

Federal funds are critical to assist states and local districts in meeting the special and unique costs required to provide quality vocational programs for all who can profit from them. Funds are needed to update equipment, provide preservice and inservice education to vocational staff, support research and encourage leadership development. Adequate support is also needed for state-level research, curriculum and staff development and innovative projects.

The area of program improvements is significantly more dependent upon federal funding than basic programs are. Federal funds support 25 percent of the costs of curriculum and staff development, research and innovation, compared to less than 8 percent of the costs of basic programs. (See Table 8.) State and local districts are more willing to invest in the basic instructional program and direct services for students than in research, program development and inservice training. Hence, the leadership and encouraging role of the federal government is especially critical in this area.

Table 8

Vocational Education Expenditures, by Legislative Purpose and Source of Funds
FY 78 Funds Only
For Program Year 1978 (July 1, 1977-June 30, 1978)

Vocational Education Act of 1963 as Amended	Total Expenditures	Federal Expenditures	Percent	State/Local Expenditures	Percent
Grand Total*	$4,989,706,462	$ 375,977,376	7.5	$4,613,729,086	92.5
Section 120 (Basic Grants)	4,345,154,820	278,185,406	6.4	4,066,969,414	93.6
Section 130 (Program Improvement and Supportive Services)	231,233,575	57,901,532	25.0	173,332,043	75.0
Section 140 (Special Programs for the Disadvantaged)	20,011,177	11,583,176	57.9	8,428,001	42.1
Section 150 (Consumer and Homemaking Education)	393,306,890	28,307,262	7.2	364,999,628	92.8

*Financial data includes tentative fiscal reports from some states.

Funds used under the program improvement section of the 1976 reauthorization of vocational education have been used to accomplish national goals. An evaluation of how these funds were used (done by Wesley E. Budke and Joel H. Magisos) found the following:

- States have been responsive to federal priorities. More than 80 percent of the projects were related to the compliance, monitoring or administrative aspects of federal priorities. (See Table 9.)
- Projects have been conducted at every educational level. More than 44 percent of the funds were used for projects at the postsecondary, adult and combined secondary-postsecondary levels.
- A majority of the projects are being conducted by public educational agencies and institutions, thus helping to develop their capacity to better serve vocational education.
- The largest number of projects have been targeted on improvement of instruction.

There are a number of factors related to keeping vocational education current which can be addressed in new legislation. A series of regional hearings conducted by the American Vocational Association (AVA) in 1979 and a survey of a sample of AVA members, conducted by the National Center for Research in Vocational Education in the fall of 1979, revealed the following major needs:

1) Communicating information about vocational education to the public.
2) Involving the community in vocational education programs.
3) Using business/industry/labor resources effectively.
4) Improving vocational education program planning.
5) Improving students' school-to-work transition.
6) Providing job placement services.
7) Strengthening vocational education's role in job development.
8) Improving evaluation of vocational education programs.
9) Upgrading subject matter.
10) Upgrading teaching skills.

Table 9

Problem Area Addressed By Projects

Problem Area	Number of Projects	Amount of Funding*	Percent of Funding*
Education to Work Transition	57	$1,387,000	3.5
Urban/Rural/Youth	27	453,000	1.2
Availability/Accessibility to Adults	32	517,000	1.3
Planning, Data & Accountability	150	4,005,000	10.1
Guidance for Careers/Vocations	98	2,379,000	6.1
Equity/Civil Rights	60	1,358,000	3.5
Special Needs (Handicapped, Gifted and Disadvantaged)	227	6,353,000	16.2
Basic Skills	24	642,000	1.6
Administration of State/Local Vocational Education Agencies	33	897,000	2.3
Curriculum Management/Curriculum Development Procedures	487	12,687,000	32.4
Other Federal Priority	63	1,370,000	3.5
None/Information Not Available	302	7,156,000	18.2
TOTALS	1,560	$39,204,000	100.0

*Totals rounded.

11) Awarding academic credit for work experience.

12) Strengthening ties between general education and vocational education.

13) Implementing performance or competency-based instruction.

14) Providing guidance and counseling services for vocational students.

15) Encouraging students to remain in school.

16) Increasing access to vocational education.

17) Providing vocational education to adults.

Federal vocational education legislation serves a variety of needs and audiences. However, there is one general need that cuts across all of these. There must be a basic set of vocational programs with associated staff, equipment and facilities available throughout the country in order to meet existing manpower needs, new and emerging needs and more specialized needs of target groups if our national priorities are to be served adequately.

Policy Issues for Keeping the Basic Programs Relevant

- Should the federal government assist states in keeping vocational education programs current with changing technology and needs or should this be a state and local responsibility?
- Should federal funds be used to provide a quality vocational education program that meets the needs of all citizens or should it help to fund vocational programs only for those who have special needs and are hardest to train?
- Should vocational education develop the capability to provide special training programs to meet community needs or should it limit its role to providing a long-term prevention program?

Recommendations

1. Staying Current as a Major Intent of Basic State Grants Use the basic state grant program to improve and keep existing programs current where employment demand exists.

2. Defining "Staying Current" Define "staying current" to include the following:

(a) Keeping vocational education instruction and equipment current with the level of technology used in business and industry.

(b) Developing and procuring new curriculum and instructional materials. Local schools often lack the funds to acquire new curriculums and instructional materials developed through commercial and public means. Vocational education, unlike other kinds of education, cannot purchase teaching materials from publishers for many of its fields. The market is either too small or changes occur too rapidly for publishing companies to stay up-to-date.

(c) Updating the skills of vocational teachers in order to keep them current with the technology in their fields and expand their ability to work with increasingly heterogeneous groups of students.

(d) Updating and upgrading programs for all students who participate in vocational education.

(e) Incorporating student organizations into curriculums for the purpose of promoting personal development and leadership skills.

(f) Supporting state and local vocational leaders and administrators who can act as agents for change by working with teachers and community persons to help keep programs of vocational education current and in tune with local labor market expectations.

(g) Recruiting and preparing instructors for new occupations, especially those in the energy field, and for those occupations where there is a shortage of instructors.

3. Converting New Knowledge into Worker Know-How Allow each state to use federal dollars to:

(a) Establish formal procedures to adapt vocational education programs in order to help new technology improve the state's economy;

(b) Work jointly with employers to determine what competencies workers will need to use improved techology;

(c) Develop appropriate curriculum and instructional materials for vocational teachers; and

(d) Mount programs that enable new and existing workers to acquire the new occupational and technical skills required to use improved technology.

4. Redefining the Basics Redefine the concept of "basic skills" to include the basic skills necessary to advance in a skilled and technical field.

Summary

Only by sustaining the nation's vocational education programs at a high level of quality can the need for qualified workers be met. Limiting the federal role to investment in short-term training for special population groups will not only resegregate the poor and minorities into inferior programs, but will lead to the deterioration of the established system of vocational education. Federal policy must close the gap between unfilled skilled jobs and unemployed workers by investing in mainstream vocational education programs.

D. Conserving and Producing Energy

Our nation is energy intensive. With only 6 percent of the world's population, we use approximately one-third of the world's energy. Historically, federal policies have encouraged the use of relatively cheap energy to stimulate economic growth. Only in recent years have business, industry and individuals started to make the cost of energy a major factor in their decision-making.

Events in the past ten years have demonstrated that our nation must become less dependent on imported energy. As the U.S. has become more dependent on imported oil, the oil-producing nations have exercised more control over the price of their oil and how it is marketed. The price of a barrel of oil has increased more than ten times since 1973. This has had a dramatic influence upon our economy, affecting the cost of filling the family car, paying the home heating bill and developing the energy budget for a business or school.

The 1981 federal budget recognizes the seriousness of this problem. It identifies the need to reduce our dependence on foreign oil through the development of alternative, domestic, renewable and nonrenewable resources and more efficient use of energy.

With a projected 22-percent increase in population by the end of this century, we will not be able to meet our energy needs unless energy is used more efficiently. The federal budget for 1981 projects $2 billion for energy conservation. This amount is more than double that budgeted in 1980. Approximately $280 million is budgeted for the development of new technology for energy conservation. In addition, tax credits will generate millions of dollars in private investment in 1981.

Fortunately, recent events have demonstrated that economic growth is possible without using increasing amounts of energy per unit of production. During the past five years, our gross national product has increased without a corresponding increase in energy consumption. Approximately 34 percent of the energy consumed in the U.S. is used in the home and for personal transportation. Since many other highly industrialized nations have a high standard of living on a more moderate level of energy usage, it is apparent that our society has the opportunity to significantly reduce its energy consumption while maintaining its standard of living. What is needed is a massive educational program to make our citizens aware of the importance of energy conservation and skilled in its efficient use.

The nation's capacity to conserve energy and to develop and use domestic, renewable and nonrenewable resources depends on the developed intelligence and skill of workers and consumers. New technical skills and know-how are derived from research and inventions; they must then be translated into widespread practice by industry and individuals. Vocational education is in an ideal position to convert such new energy-related information and systems into applications by workers, families, consumers and communities.

The nationwide vocational system of comprehensive vocational education can bridge the gap between new information and its application in the course content of such programs as agriculture, trade and industry, home economics and distributive education. These vocational programs and others, through classroom instruction, on-the-job learning experiences, counseling and other support services, prepare young individuals for their first jobs. They also upgrade and expand the skills of those who are employed, assisting individuals to move forward in their careers by keeping abreast of technological change. Energy education belongs within this context.

As our domestic energy industries develop, they will require the kind of workforce which vocational education can produce. There will be a substantial increase in the number of workers with traditional skills: carpenters, pipefitters, sheet metal workers, heavy equipment operators, maintenance mechanics, chemical technicians, etc. These people will need to be familiar with the new applications of their trades to such emerging energy technologies as solar, wind, nuclear, biomass and synthetic fuel. There will be jobs for skilled workers to drill and explore for gas and oil, to build and maintain pipelines, to mine and transport coal, to install, operate and maintain diesel-powered engines and new burners and boilers for industry. Skilled workers will be called upon to insulate buildings and to design and operate energy management systems in homes, factories and commercial establishments.

Given the enormous impact of energy conservation and production on jobs and consumers, the implications for change in vocational education are great. Considerable attention must be devoted to the modification and extension of existing courses, to the development of new long-term and short-term courses, and to the expansion of community courses to help adults cope with rising energy costs.

Vocational educators have already begun to respond to the nation's energy crisis. Several states have formed consortia to develop energy education materials. Some states have funded energy curriculum projects for vocational education programs and a significant number of vocational teachers have infused energy information and conservation practices into their programs. However, the lack of significant funding and the limitations placed on the energy funds included in the 1976 reauthorization of vocational education significantly limit the efforts of local, state and regional organizations.

Common problems are insufficient funds for curriculum development; lack of funds to coordinate and conduct joint efforts in curriculum and instructional development; insufficient resources for inservice education of vocational teachers; lack of funds for a coordinated effort to identify energy content for ongoing and new programs; and inadequate funds to procure the new equipment required.

The lack of adequate resources for planning, curriculum development and professional development of vocational educators has led to a proliferation of individual efforts to respond to national energy concerns. This diversity offers a rich resource upon which further work can be based. However, these scattered efforts are not likely to grow unassisted into the sharply focused and consistent activities needed to create the vocational programs and materials which can help to achieve the nation's goals of energy production and conservation.

The perception of the close tie between optimum use of our natural resources and development of skilled workers is not new. In 1914 the Commission on National Aid for Vocational Education pointed out, "As the asset of natural resources lessens or fails in the scale, the asset of human labor rises in importance....The conservational and full utilization of our natural resources can be accomplished only in proportion as we train those who handle them." As new legislation is formulated, it is important to remember this and to build into the contemporary role of vocational education the means to carry out one of its basic purposes.

Policy Issues for Conserving and Producing Energy

- Does vocational education have a role in achieving the nation's energy goals? If so, what is that role?
- Should the reauthorized vocational education legislation be the means for clearly linking vocational education to the nation's energy goals? If not, is special legislation needed?
- Must particular resources be earmarked for vocational education to perform its role in achieving the nation's energy goals? Should or can funds be earmarked within basic state grants or other unidentified sources?

Recommendations

1. Definition of Role The reauthorizing legislation should define a role for vocational education in meeting the nation's goals of energy conservation and energy resource development, to include the following:

(a) Expanding existing programs and developing new programs which prepare individuals for new energy-related jobs.

(b) Modifying and expanding existing programs to adapt to changing energy technology in the basic skill areas of mechanics, agriculture, drafting, heating/ventilating, manufacturing, installing and servicing.

(c) Aiding communities in developing the skills of persons to develop and demonstrate total energy systems for public buildings; transportation; waste storage and recovery; and the utilization of domestic and alternative forms of energy.

(d) Developing informed consumers and homeowners who are familiar with and will make use of energy-efficient techniques and materials.

(e) Offering short-term courses and community programs, including those involving student organizations.

2. State Policy and Planning Provide through the state planning process a mechanism to promote state policy development and planning for vocational education as a means of addressing the nation's energy goals.

3. Staff Development Provide for preservice and inservice training of instructional staff in the latest theory and skills required in energy technology. The new legislation should permit the hiring of energy specialists in areas such as community systems (transportation, public buildings, waste, utilities) and industrial conservation.

4. Instructional Materials Allocate funds to upgrade course content and develop new courses to treat new and changing energy technology and to prepare individuals for new and emerging occupations, such as conservation specialists. In addition, allocate funds for materials and assistance to technical institutions and comprehensive high schools and for national energy-related curriculum development projects to provide overall coordination and assistance. Of particular importance are short-term courses for workers who need to upgrade their skills for their daily job requirements.

5. Information and Support Services Allocate resources for monitoring the development of technical information (materials, processes and inventions) so that immediate transfer can be made to instruction.

6. Community and Homemaking Programs Assist individuals to become energy-conscious in their personal lives as consumers, family members and citizens. Funds for developing community courses for farmers, homeowners and consumers should be available in both rural and urban areas.

Summary

The reauthorizing legislation should clearly link vocational education to the nation's energy goals. The states should be encouraged to address these goals through the state planning process, establishing both immediate and long-range objectives and allocating resources to be used to meet the particular needs of individual communities for energy-related vocational education.

E. Helping Groups that Need More Services

Dramatic social, economic and technological changes will occur at a rapid pace throughout the next decade as we move toward our national goals in energy, productivity and equity. As current skills, services and products become outdated, they will be replaced with more sophisticated techniques and technology. As the competencies required to perform skilled and technical jobs become more complex, persons seeking initial entry into the labor market will find the threshold of entry-level skills to be significantly higher than in the past. In addition, many adults currently employed will be displaced from their jobs and will need to acquire new skills.

1. Unemployed Youth During the past decade, youth unemployment emerged as one of the nation's most critical problems. In 1979, when youth unemployment was approximately 13.9 percent, the Vice-President's Task Force on Youth Unemployment found that youth between the ages of 16 and 34 accounted for nearly half the nation's unemployed. The chances of being unemployed during recent times have been even greater for minority youth or those who have dropped out of school or who come from a poor family. (See Table 10.)

It does not appear that there will be a dramatic improvement in employment opportunities for unskilled youth in the 1980s. There will be even fewer jobs for those who are poorly prepared or who fail to complete high school. The Vice-President's Task Force estimated that four million young people will need some help each year to successfully make the transition into the world of work. An estimate of the job shortfall for poor youth in 1978 is given in Table 11. It is even greater today. More than a million jobs will be needed to close the gap.

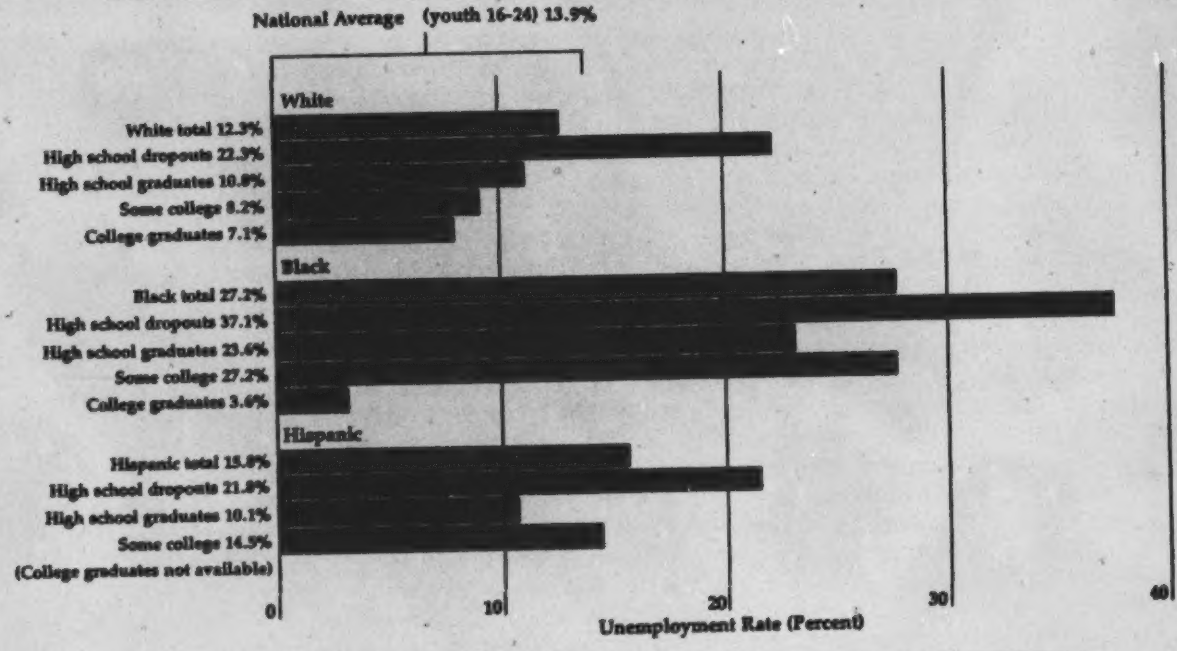
Changes in the nature of jobs in the next decade will compound this problem. As our economy moves into more service, commerce and information management jobs, individuals will need to have basic education, employability and work skills in order to work. More than two-thirds of all the new jobs which will open up in the next ten years will be white collar and service jobs requiring competencies in human relations, communications and technical know-how.

Many people point to the expected job growth during the 80s as an indication that jobs will more than likely be available to youth who are prepared and motivated. Vocational education can play a vital role in developing the skills and interests of youth to make them job-ready and employable.

Research into the effects of secondary vocational education programs has indicated that secondary school students who have completed a vocational program are better prepared for work than those who completed other programs. Studies in Ohio and Wisconsin found that employers felt that vocational education developed the technical skills, attitudes and work habits needed on the job. In order to be effective in reducing youth unemployment, vocational education will need to develop and adopt

Table 10

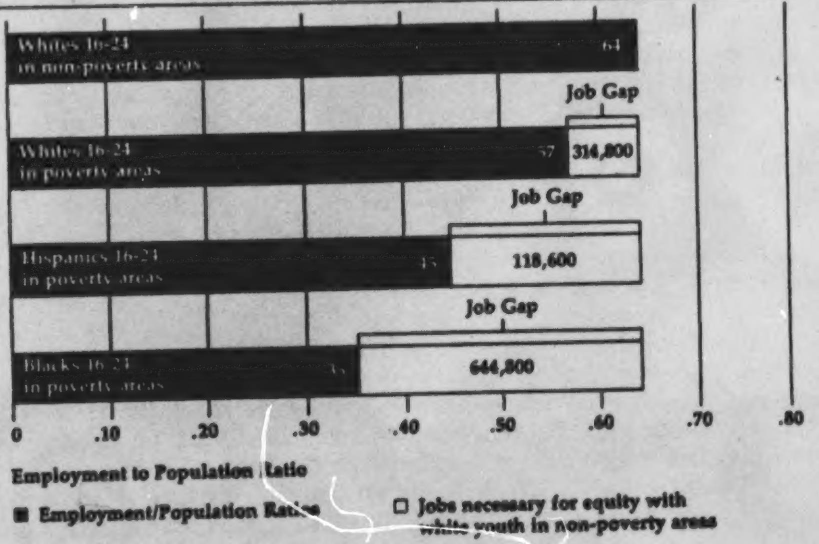
Youth Unemployment by Educational Attainment 1976



Source: "The Education Gap," A Summary Report of the Vice President's Task Force on Youth Employment, 1980.

Table 11

The Job Gap for Poor Youth 1978



Source: A Summary Report of the Vice President's Task Force on Youth Employment, 1980.

new and innovative ways to reach out to and rescue youth who have poorly developed skills and attitudes. In addition, it will be necessary for vocational educators to work cooperatively with other agencies, institutions, and organizations which have responsibility for and are working to assist youth in making the transition into employment.

2. Adults The strength of any democracy rests upon an enlightened citizenry. Yet Walter Mondale, writing in Change in 1976, pointed out that in our nation, "one in five persons do not read well enough to understand a help wanted ad, one in three cannot figure out how to read a newspaper grocery ad, and one in six cannot perform most of the basic writing skills." While public postsecondary institutions in the United States have opened their doors to ever larger segments of society, greater access to learning is needed for all Americans, regardless of age or social and economic position.

Among the untold millions of adults who need or want to continue their education are: full-time working people who need upgrading; people needing relicensure in their occupations; women locked into traditional low-paying jobs who want to prepare for higher paying non-traditional work; full-time working people who need to update their skills or technology; men and women who wish to work in nontraditional occupations; middle-aged women seeking to break out of their roles as homemakers to enter the wider world of work; displaced homemakers; displaced workers; those who are technologically unemployed; mid-career executives trying to keep up with advances in their field; adults exploring new careers or mid-career change; those who are economically disadvantaged; those who have handicapping conditions; school dropouts; people who have been incarcerated; people who lack the basic communication and computational skills; adult immigrants whose native language is not English; those who missed out on education beyond high school and want it; those nearing retirement age and those who are retired; and people who work full-time and are seeking leisure-time skills.

Social legislation over the last few years has tended to segregate people by age into boxes labeled "school," "work" and "retirement." We continue to delay the age at which young people, no matter how mature they are, are allowed entry to adult life. For middle life, we provide few alternatives to established patterns of work and education. At the end of the cycle, we continue to create incentives for older persons to leave the full-time job market early, despite their experience, skills and prolonged life expectancy.

Many young people question the emphasis on long-term, full-time schooling; some adult men and women are challenging the traditional sex-based roles and seeking to change their lifestyles; and increasing numbers of the elderly look for ways to be productive citizens.

Another questionable assumption in our present approach to education, work and retirement is that during the middle years wage earners will pay sufficient taxes to support the young and the elderly. In 1945 the ratio of wage earners to social security recipients was 35 to 1; today it is 3.2 to 1 and going down. How much longer can we afford to continue our traditional three-box model?

The nation's population is becoming older. The median age will increase from less than 29 years to more than 36 years by the year 2000. Table 12 shows that the 24-44 age group will make up 77 percent of the population by 1990 and 52.4 percent of the labor force. This group will require a substantial increase in adult vocational education services.

Table 12

Population Change and Labor Force Distribution

Ages 25-44, Both Sexes

	Population Change (Percent)	Labor Force Distribution
1975 (Actual)	53.4	42.2
1980 (Projected)	61.4	45.2
1985 (Projected)	70.6	49.7
1990 (Projected)	77.0	52.4

Source: U.S. Bureau of Labor Statistics

Table 13 illustrates a 7.6 percent increase in the number of adult vocational students in the nation between FY 1976 and FY 1978. These increases are important and encouraging, yet several concerns must be highlighted. Adult enrollments are not expanding at a rate consonant with the growing number of adults in our society. Vocational education served only 4 percent of the labor force through adult programs in 1976, and a close examination of enrollments by state reveals considerable unevenness in the delivery of these programs. For example, Iowa served 10.6 percent of the labor force, but the District of Columbia served fewer than 1 percent.

Further, the number of adults in programs that prepared them for employment dropped in FY 77. In that same year, the total number of handicapped adults as well as the number in preparatory programs also decreased. And while the total number of disadvantaged adults increased that year, the number of those in preparatory programs decreased 16.1 percent, reflecting an emphasis on upgrading rather than long-term preparation for employment.

Table 13

Adult Enrollments in Vocational Education

	FY 76	FY 77	FY 78	Change (Percent)
Total	4,069,575	4,208,949	4,379,639	+7.62
Preparatory	865,461	847,774	NA	-2.0
Supplementary	3,026,191	3,178,285	NA	+5.0
Apprenticeship	177,923	182,890	NA	+2.8

Source: U.S. Office of Education, Summary Date 1978.

The anticipated structural shifts in employment during the 80s suggest that national initiatives and support are clearly needed to expand the capacity of vocational education to serve more adults. Vocational education has staff, methods and techniques which have proven to be successful in preparing people for employment. However, it will be necessary to design and implement more efficient and effective open-entry, open-exit vocational training programs.

3. Displaced Workers New technology, changes in commerce and the relocation of industry within and outside the country displace thousands of workers each year. Federal policies stimulate many of these changes. The federal goal to increase productivity and reduce our dependence on imported oil, for example, will cause significant changes in our labor market. As auto manufacturers retool to produce more fuel-efficient cars, they will relocate, build new plants and use more efficient production equipment. Fewer production workers will be required, yet this process of technological change is expected to create many other kinds of jobs.

Reindustrialization, as it is now being discussed in Washington, will have dramatic effects upon the workplace. Even without a federal policy encouraging reindustrialization, the nature and mix of manufacturing jobs is changing as the integration of microcomputers into production machines, tools and instruments progresses rapidly. This will increase the proportion of technicians in the work force.

In April, 1980, Forbes reported the results of interviews with former Zenith employees who were displaced when the production of TV sets was moved from Chicago to a foreign plant. Some of these displaced workers were still unemployed after more than five years. Many others were still looking for jobs that met their employment expectations. The one program that had the most beneficial effect in helping these displaced workers to acquire new skills was vocational training. While the Trade Adjustment Act provides financial assistance to workers displaced because of foreign trade, little investment has been made to aid local communities to retrain these workers for other jobs. The number of trade-displaced and technologically displaced workers will continue to grow.

4. Displaced Homemakers One type of displaced worker who faces especially difficult problems is the displaced homemaker. The displaced homemaker is a person--usually a woman--who is between the ages of 35 and 64, has spent most of her adult life as a full-time homemaker, and has lost this job because of separation, divorce, abandonment or death of her spouse. There are more than 4 million displaced homemakers at the present time and the number is expected to rise. Currently 7 million married women between the ages of 35 and 64 are not in the labor force and have no children under 18. The rising divorce rate, coupled with women's longevity, will displace many of these women from their homemaking jobs.

In addition, 15 million homemakers with minor children who are receiving government assistance are out of the labor market. As their children reach 18, these women will need to find new jobs.

As the displaced homemaker moves from her homemaking job to another job, she is frequently without marketable job skills, experience or credentials required to obtain employment outside the home. She does not qualify for government assistance because her unpaid status as a homemaker does not provide unemployment compensation and because she is too young or her children are too old or her marriage was too short to make her eligible for Social Security. If her children are over 18, she is ineligible for Aid to Families with Dependent Children. In addition, she may face legal problems she has never dealt with before and is probably no longer eligible to receive benefits from health or pension plans.

5. Other Populations

(a) Offenders A 1980 report of the American Correctional Association says that there are 500,000 convicts in state and federal prisons, and that 40 percent of the 75,000 people released annually are recommitted. Because there is a strong correlation between unemployment and reconviction rates, Chief Justice Warren Burger has called for a concentrated effort to give all prisoners a "marketable skill to decrease their prospect of returning to prison."

(b) Aliens Alien workers, traditionally unskilled or underskilled, are faced with the problem of integrating themselves into a

43

complex social and economic system in which millions of American workers are struggling to survive. The immigrant faces economic problems, the need for social orientation and a language barrier. Many additional support services may be needed--career guidance, family life skills, basic skills training--in order that a successful transition can be made.

Policy Issues for Helping Groups that Need More Services

- Should federal programs emphasize preparing people for private sector employment, or should they simply provide funds to support the needy?
- Should vocational education be made capable of helping, reaching out to and rescuing unemployed youth and adults, or should it be funded to provide skill training only to those who seek it themselves?
- Should federal resources be provided to vocational education to assist people to plan for and develop the skills needed to make transitions into new jobs, or should the individual and local institutions have this responsibility?
- Should federal legislation provide state boards of vocational education with the flexibility needed to address national needs in local communities where the problems are so severe that the regular vocational education system cannot handle them, or should these national problems be left to some other delivery system?
- Should vocational education receive the resources needed to offer training programs of various duration in a variety of settings, or should it be funded only for longer-term training conducted in school settings?

Recommendations

1. Out-of-School Youth

(a) Develop, test and implement new approaches for locating and recruiting out-of-school youth for vocational education programs, using vocational laboratories located in institutional settings at both secondary and postsecondary levels.

(b) Initiate and expand comprehensive vocational education programs to provide open-entry/open-exit training opportunities for out-of-school youth. These programs should provide the job competencies, work attitudes and basic survival skills needed to obtain employment, develop job stability and enhance job advancement in urban and rural settings.

(c) Explore new approaches to provide out-of-school youth with realistic and broad employment skills which will assure establishment and advancement in employment.

2. Adults

(a) Design, test and implement new approaches for locating and recruiting employed, underemployed and unemployed adults.

(b) Increase the emphasis on adults in the reauthorized vocational education legislation.

(c) Make comprehensive assessment and vocational counseling services available to adults.

(d) Coordinate adult basic education with occupational training to provide more relevant and effective instruction in basic skills and a more successful transition into vocational training.

(e) Increase the employment opportunities of adults by providing readily accessible institutional and community-based training systems, support services and follow-through programs of vocational education.

(f) Generate and provide information to those responsible for adult education, by means of national and state studies, conferences, workshops and a thorough analysis of local needs and directions.

3. Displaced Workers

(a) Develop and field-test new approaches for early identification, assessment and vocational counseling to reduce the time of unemployment for displaced workers by starting retraining before the workers are displaced from their jobs.

(b) Provide for collaboration between vocational education and the business community to design programs which give displaced workers competencies in occupations which are current and offer definite potential for career stability and mobility.

(c) Provide for collaboration between vocational education and the Department of Labor and its agencies at the federal, state and local level to develop programs and services that are more responsive to the needs of displaced workers and opportunities in the labor market.

(d) Encourage state boards of vocational education to provide technical assistance to local communities in forming liaisons with other concerned organizations to mount programs for displaced workers.

4. Displaced Homemakers

(a) Continue to develop, test and implement programs to reach out to and encourage displaced homemakers to enroll in vocational education programs.

(b) Provide federal vocational education funds for the support services needed to assist displaced homemakers in successfully completing a vocational education program. These services may include, but are not restricted to, child care, pre-employment training and counseling, and home management, health and nutrition consumer skills.

(c) Provide appropriate follow-through services to improve the likelihood of successful transition from a vocational education program to a job.

5. Other Populations

(a) Develop and field-test new approaches for early identification, assessment and vocational counseling to reduce the time of unemployment for new immigrants and aliens.

(b) Include people in prisons in the category of "disadvantaged" in the reauthorizing vocational education legislation.

Summary

By policy and program, federal vocational education legislation should strengthen the capacity of states to assist local education agencies and institutions to improve their ability to reach out and rescue those who need special services; and to mount flexible and open-ended programs for unemployed youth and adults in cooperation with other agencies in the broader employment-related education and training community.

F. Responding to the Nation's Equity Goals

Vocational education is a crucial instrument for creating access to better jobs for those who in the past have been denied because of race, sex, national origin or other disadvantage. All forms of discrimination or disadvantage in occupational or employment-related education and training can be overcome if vocational education is given the capacity to provide individuals with the support service they need to succeed.

To consider the extent to which the nation's equity goals are being met in vocational education, one must examine the status of need for sex equity, minority equity and equity for those who are disadvantaged by reason of handicapping conditions, geographical location of other factors.

1. Sex Equity In 1979, the U.S. Department of Labor (DOL) reported that for the first time the majority of American women worked outside the home, with 51.9 percent in paid employment. The figures indicate that most women work because they and their families need money. The number of women in the workforce will undoubtedly rise during the 1980s as the number of single-person households and the number of households headed by women rise.

In 1977, two-thirds of the women in the labor force were single, widowed, divorced or separated, or had husbands earning less then $10,000 per year. Yet women earn only 58 cents for every dollar earned by men. (See Table 14.)

Changes in American policy and practice that would equalize the income of the sexes are higher pay for traditionally female work and an increase in the employment of women in higher paying, traditionally male jobs as well as in new and emerging high-technology and information-processing jobs.

The occupational segregation by sex of the labor force is reflected in vocational education enrollments. While slightly more than half the students enrolled in vocational education are female, by far the greatest number of women are in the traditional areas of home economics, business and office, and health occupations. (See Table 15.)

Table 16 shows that female enrollments in nontraditional areas are increasing. But while this growth is evident in the percentage of female enrollment in heavily male occupational areas, the actual number of women entering nontraditional fields remains quite small. Significant change is going to take place through a gradual process over a number of years.

Vocational education can play a significant role in preparing women to enter nontraditional fields, but it cannot act in isolation. Most authorities agree that sex-role socialization begins at birth and that simple imitation, direct reinforcement and cognitive development are important determinants of values and behavior.

Table 14

Comparison of Median Earnings of Year-Round Full-Time Workers, by Sex, 1955-1977

(Persons 14 years of age and over)

Year	Median earnings Women (1)	Median earnings Men (2)	Earning gap in dollars (3)	Women's earnings as a percent of men's (4)	Percent men's earnings exceeded women's (5)	Earnings gap in constant 1967 dollars (6)
1977	$8,618	$14,626	$6,008	58.9	69.7	$3,310
1976	8,099	13,455	5,356	60.2	66.1	3,141
1975	7,504	12,758	5,254	58.8	70.0	3,259
1974	6,772	11,835	5,063	57.2	74.8	3,433
1973	6,335	11,186	4,851	56.6	76.6	3,649
1972	5,903	10,202	4,299	57.9	72.8	3,435
1971	5,593	9,399	3,806	59.5	68.0	3,136
1970	5,323	8,966	3,643	59.4	68.4	3,133
1969	4,977	8,227	3,250	60.5	65.3	2,961
1968	4,457	7,664	3,207	58.2	72.0	3,079
1967	4,150	7,182	3,032	57.8	73.1	3,032
1966	3,973	6,848	2,875	58.0	72.4	2,958
1965	3,823	6,375	2,552	60.0	66.8	2,700
1964	3,690	6,195	2,505	59.6	67.9	2,696
1963	3,561	5,978	2,417	59.6	67.9	2,637
1962	3,446	5,974	2,528	59.5	73.4	2,790
1961	3,351	5,644	2,293	59.4	68.4	2,559
1960	3,293	5,417	2,124	60.8	64.5	2,394
1959	3,193	5,209	2,016	61.3	63.1	2,308
1958	3,102	4,927	1,825	63.0	58.8	2,108
1957	3,008	4,713	1,705	63.8	56.7	2,023
1956	2,827	4,466	1,639	63.3	58.0	2,014
1955	2,719	4,252	1,533	63.9	56.4	1,911

Notes: For 1967-77, data include wage and salary income and earnings from self-employment; for 1955-66, data include wage and salary income only.

Column 3 = column 2 minus column 1.
Column 4 = column 1 divided by column 2.
Column 5 = column 2 minus column 1, divided by column 1.
Column 6 = column 3 times the purchasing power of the consumer dollar (1967 = $1.00).

Source: U. S. Department of Labor, Handbook of Labor Statistics, 1977.

Table 15

Distribution of Women in Vocational Education Programs 1972, 1977, 1978*

Program Area	1972 (percent)	1977 (percent)	1978 (percent)
Consumer and Homemaking	92.1	81.6	80.2
Occupational Home Economics	86.0	83.9	82.4
Health	84.6	78.2	77.9
Office	76.3	75.1	75.6
Distributive	45.2	49.7	51.4
Trade & Industry	11.6	14.4	15.4
Technical	9.7	17.0	17.6
Agriculture	5.3	14.9	17.3
Total Program	55.3	51.3	50.4

*Source: The Status of Vocational Education in 1978, U.S. Office of Education, based on summary data.

Table 16

Female Enrollment in Nontraditional Vocational Education Programs (in thousands)*

Program	1976	1977	1978	Increase (percent)
All programs	7,750	8,277	8,419	8.6
Trade & Industry	338	467	524	54.9
Agriculture	110	157	173	57.5
Cooperative	49	59	NA	21.0
Technical	44	88	93	110.4
Supervisor and Management Development	15	23	NA	51.1
Auto Mechanics	13	18	18	31.8
Electronics	5	11	12	120.3

*Source: Adapted from 1978 summary data, U.S. Office of Education.

Traditional sex-role socialization has an important effect upon training and employment of women in nontraditional areas. Even in very controlled situations, women tend to opt for traditional occupations when they are given a choice. Sue Berryman, in analyzing data on female military trainees' attitudes toward nontraditional vocational training, found that traditionally female training vacancies were filled first on a given day and that the attrition rate for females trained in nontraditional jobs was greater. Berryman's 1980 Rand Corporation study, *Vocational Education and the Work Establishment of Youth: Equity and Effectiveness Issues*, also concluded that race and IQ are highly significant factors in the choice of nontraditional occupations. Those women who chose nontraditional occupations were white and had high IQs.

Change is a slow process; the integration of women and men into nontraditional employment-related education and training cannot happen overnight. A 1979 American Institute of Research (AIR) study of vocational education equity found, however, that where a concerted effort has been focused on nontraditional occupational career choices, more students have enrolled in nontraditional programs. The authors found that little more than one-third of the schools actively sponsor programs related to sex equity and that both the vocational teachers and the counselors employed in schools reflect traditional patterns. Of almost 20,000 vocational school counselors, 62.5 percent are male. Of 43,000 teachers of traditionally male occupations (technical, trade and industrial, agricultural), more than 96 percent are male. Of 34,500 teachers of traditionally female occupations (health, home economics, business and office), 88.9 percent are female.

The AIR study concluded that nontraditional role models would stimulate interest in enrollments in nontraditional courses. However, it is likely that dramatic improvement in enrollments of women in nontraditional occupational programs can be achieved by concentrating on recruiting older women seeking better paying jobs and women seeking to enter or reenter the workforce.

2. *Disadvantaged and Handicapped Youth* Some 12 percent of school-age Americans have been identified as having handicapping conditions. What will happen to them when they become adults? The National Association of State Boards of Education recently reported that only 40 percent of the mentally and physically handicapped adults in the United States are employed during a given year, compared to 73 percent of the nondisabled population.

Youth from poor families face a similar future, usually entering the labor force at lower levels than other persons. Approximately 4 million of the 24 million Americans between the ages of 16-21 will find transition into the labor force difficult; many will not make a successful entry.

Special attention to pre-employment needs and training is a crucial step toward preparing disadvantaged and handicapped persons for meaningful employment. These hard-to-reach students need more intensive, better planned prevocational and career guidance programs as well as basic skills and support services while they are still in junior high school. Vocational programs must reach them by the age of 12, for many disadvantaged youth currectly drop out of school before the 11th grade, the year when students traditionally participate in vocational education programs.

Disadvantaged and handicapped students need vocational training which simulates actual working conditions. They need programs designed to provide a progressive, integrated pattern of on-the-job learning and related classroom instruction in basic and employment skills. Their job experience should be planned and based on the specific needs and readiness of the individual student. In some cases, where students are not ready for private sector employment, more sheltered work experience should be provided. Work orientation and discipline should be stressed so that in time students will be able to move from youth jobs to adult jobs requiring technical know-how and mature attitudes.

Vocational education is not presently able to provide sufficiently for handicapped and disadvantaged students who need special services and training to overcome their problems and become self-sufficient. Many of these students will have traumatic experiences as they seek to enter the labor force unless they can be given adequate vocational preparation. Because a variety of service agencies and allied professionals serve these students, there is a need for cooperative efforts to meet their educational needs.

3. Minority Equity Minority students comprise about 25 percent of vocational education enrollment. Blacks, who comprise 11.6 percent of the U.S. population, make up about 18 percent of those in vocational education; Hispanics, who form 5.6 percent of the population, comprise 6.1 percent of vocational enrollees. Since 1972, the enrollment of minorities in vocational education has increased. (See Table 17.)

Table 17

Enrollment of Minorities in Vocational Education

Minorities	1972	1977	1978	Percent Increase
American Indian or Alaska Native	83,074	107,999	112,999	36.02
Black, not of Hispanic Origin	1,660,585	2,357,497	2,425,899	46.09
Asian or Pacific Islander	98,962	177,800	199,543	101.64
Hispanic	736,516	1,046,262	1,109,169	50.8

Source: U. S. Department of Education

There are suggestive parallels between the enrollment patterns of minorities in vocational education and the level of earnings and kinds of occupational identity of minorities in the general population. The Bureau of Labor Statistics reports that blacks and Hispanics are underrepresented in the higher skilled, technical and white collar occupations and are overrepresented in traditional service occupations. The black unemployment rate is consistently higher than that for whites. Annual earnings of blacks and Hispanics are consistently below those of whites. (See Table 18.)

Table 18

Average Income for Year Round Full-time Workers
(in dollars)

Worker	Female	Male
Black	9,020	13,239
Hispanic	8,331	11,943
White	12,530	16,360

Source: U.S. Department of Commerce, Bureau of Census
Money Income of Families and Persons in the United States, 1978.

Similarly, minorities are underrepresented in selected vocational education programs and overrepresentated in others. Teachers as well as students reflect this skewing, with the largest percentage of black teachers in traditionally female trade and industrial programs and the largest percentage of Hispanic teachers in health, a traditionally female (and, therefore, low-paying) occupation. (See Table 19.)

A study carried out in 1978 for the U.S. Bureau of Occupational and Adult Education explored the attitudes of 1,252 black leaders toward black students entering and completing vocational education. This group identified helping students find employment as the top priority for vocational education. They believed that minorities must be overqualified to compete in the marketplace and that high academic achievement together with high skill competencies are necessary for employment. They indicated that basic education should be taught along with marketable skills and that schools should teach skills which are above entry level. They wanted more extensive efforts to identify available jobs and to relate job training to those jobs.

Table 19

Distribution of Teachers by Race and Occupation

Type of Occupation	White (Percent)	Black (Percent)	Hispanic (Percent)
Traditional Male (Agricultural Trade & Industrial Technical)	82.0	13.7	3.1
Traditional Female (Home Economics, Health, Business & Office)	86.2	10.5	2.7
Traditional Mixed (Distributive Education)	89.8	9.1	.3

Source: Harrison, et al, Vocational Education Equity Study, American Institute for Research, 1979.

Vocational education can be a means through which greater numbers of minority students can acquire better paying jobs. This achievement will require that minority students be encouraged to enroll in nontraditional occupational programs, that they be provided with the remedial instruction they need to master technical materials, and that they be given job-placement assistance.

4. Rural Areas Most vocational education programs are planned to meet the needs of the urban population. Rural areas have different problems. Sparse population means small enrollments and limited funds. Small rural schools can neither afford to offer comprehensive vocational education programs nor to bus students long distances to centralized vocational schools.

Formula funding does not provide equity in rural communities. Rural schools have limited resources and no personnel to write for competitive grants. The reauthorization of vocational education legislation should consider the special characteristics of rural communities by providing basic support and the means of satisfying the needs previously identified to achieve equity for special populations.

Policy Issues for Responding to the Nation's Equity Goals

- Should vocational education's role in achieving sex equity be to overcome sex bias, sex stereotyping and sex discrimination, or should the role be extended to assure that individuals have the necessary information to make a "considered choice" regarding nontraditional enrollment?

- Should vocational education be responsible for support services and programs such as child care, health care, transportation, psychological support, basic skills, bilingual education and stipends for trainees, or should vocational education be responsible only for occupational training?

- Should vocational education be responsible for support services and programs during training and the transition-to-work period, or only during the training?

- Should local agencies be required to match the excess costs of programs for handicapped and disadvantaged individuals, or should this requirement be dropped from the law?

- Should federal vocational education moneys be used for all students, or should such funds be used only for those for whom the nation has special concern--the disadvantaged, the handicapped, minorities and women?

- Should vocational education be responsible only for entry-level training, or should it provide training in skills needed for jobs beyond entry level?

- Should the special characteristics of geographic location be considered when providing funding for vocational education, or should the same formula funding now in use be continued?

Recommendations

1. Special Services Reimburse the total cost of initiating and providing the special services, including instruction materials, needed to increase access and success for special population groups. Funds should be used to overcome disadvantage and discrimination on the basis of sex, race, handicap and other specified conditions. Services may include:

(a) Intensive occupational and informational services and special outreach to contact and enroll persons who because of past discrimination have not participated in the full range of occupational training.
(b) Initial assessment, vocational counseling, remedial help and supportive counseling to help individuals move into nontraditional roles.
(c) Tutoring, special study media and modified laboratory equipment.
(d) Child care.
(e) Home economics instruction in the care of small children, consumer education, nutritional education, parenting education, management skills and coping skills.

2. Grants for Developing and Testing Equity Services Allocate funds for grants to local educational agencies and institutions for innovative approaches to:

(a) Enrolling women and minorities in nontraditional occupational areas.
(b) Assisting these students so they can successfully complete vocational programs.
(c) Placing these persons on the job.
(d) Recruiting and training women and minorities for state and local leadership and teaching positions.

3. Civil Rights Compliance Activities and Technical Assistance Provide funds for civil rights compliance and technical assistance staff who will give support and leadership to staff persons and to local education agencies. These funds should not be taken from, but be in addition to present appropriations.

4. Sex Equity Administration Provide support for the administration of the program to reduce sex role stereotyping and bias by funding sex equity coordinators and technical assistance programs.

5. National Fellowship Grants Provide national fellowship grants for minorities, women and persons from depressed communities who wish to prepare for positions in vocational education.

6. Rural Areas Make funds available for developing and operating vocational education programs to serve rural areas.

7. School-to-Work Transition Provide additional funds to strengthen the school-to-work transition for handicapped, disadvantaged and nontraditional students. The funds should be used to expand the use of the worksite for learning activities that are coordinated with in-school learning, including home and community projects, youth enterprise projects and student organizations.

8. Joint Education Programs Provide a mechanism to promote joint efforts between vocational education and other education programs to overcome problems of those who are disadvantaged or handicapped.

9. Consumer and Homemaking Provide consumer and homemaking education with funds to increase efforts to meet the educational needs of men, women, minorities and disadvantaged or handicapped persons.

Summary

The reauthorizing legislation should provide the resources to enable vocational education to offer all individuals equal opportunity to understand, to consider, to choose and to pursue traditional and nontraditional occupational programs. The resources must be sufficient to provide the extra services which enable disadvantaged and handicapped individuals to succeed--outreach, assessment, related basic skills training, counseling and extra time. Vocational education can then be held accountable for the quality of efforts expended to assure all individuals equal access and equal success in its programs. It is unreasonable to expect vocational education to achieve perfect equity for its graduates in the labor market. There are too many variables at work to make this possible, including the right of individuals to chart their own destiny. Holding education accountable for an equal proportion of male/female or minority/majority in each program area can only result in the loss of individual liberty.

PART III.

Practical Problems Facing Vocational Education

A. Improving, Revising and Reforming Vocational Education

The resources of the in-place system of vocational education can be brought to bear more directly upon contemporary social and economic problems if the federal government will foster the creation of new ways to develop and relate the system's potential to national priorities as they are expressed in local communities. Federal advocacy and leadership can result in the formulation and testing of ideas to bring about widespread improvement and reform in the contribution which vocational education makes to the nation.

The importance of program improvement has been recognized by vocational education legislation since the passage of the Smith-Hughes Act in 1917. Commencing with the Vocational Education Act of 1963, specific emphasis has been placed on the need to develop a nationwide, integrated program improvement effort. Succeeding federal laws continued to expand and enhance these efforts through various programs of national significance. Experience has substantiated the value of these programs and the key role they play in revising and improving vocational education programs in the nation.

The Vocational Education Leadership Development Program, for instance, has prepared individuals for key roles in the profession. Upon completion of this program, 83 percent of the awardees obtain their first position as administrators, assistant administrators, directors, supervisors, coordinators, consultants, specialists, professors or chairpersons in vocational education. Former fellows have also assumed leadership roles in the U.S. Office of Education, have become state directors of vocational education and have been selected to be presidents of community colleges, area vocational/technical schools and technical institutes. The leadership development program has also helped a number of universities to further develop their vocational education departments.

Another program of national significance is the National Center for Research in Vocational Education, which has made a significant contribution to professional development and provided a wealth of information and technical assistance to state and local agencies and institutions. The National Center has encouraged comprehensive study of national problems and programs of national significance through its Advanced Study Center, Fellows-in-Residence and institutes.

Extensive use has been made of the retrieval and information services provided through the ERIC Clearinghouse on Adult, Career and Vocational Education, another program of national significance. The computer retrieval system designed for ERIC permits rapid identification of relevant documents. ERIC services contribute significantly to program development, provide a multiplier effect for research and development activities and help to avoid unnecessary duplication of effort.

In the area of curriculum improvement, six Regional Curriculum Coordination Centers form a national network for dissemination, curriculum management and liaison with the National Center and 57 states and territories. The importance of these centers is demonstrated by the role they are presently playing in developing new energy curriculums for vocational education. The centers provide an effective mechanism for cooperative efforts and several states are now using this capability for the joint development of energy curriculums. Five of the six regions are working in this area.

The need for programs of national significance is growing. As our nation faces expanding challenges in the areas of energy, productivity and equity, the need to investigate vocational education's role in these matters becomes more critical. Only at the federal level is it feasible to conduct studies and projects which are national in scope, long-range and oriented to the future.

National projects and programs are needed to do the following:

- Determine the relationship between vocational education and national, social and economic problems.
- Develop a valid and reliable data base for policy development and national decision making.
- Support basic research in vocational education.
- Identify instructional materials, teaching strategies and support services that will increase the success of handicapped and disadvantaged students in vocational education.
- Identify ways that vocational education can reach out to and serve unemployed youth.
- Coordinate vocational education research, program improvement and dissemination with programs and activities supported by other legislation.
- Support leadership development in vocational education.
- Identify more efficient and effective means for keeping vocational teachers current with the technology in their fields.
- Determine efficient and practical ways that vocational education can disseminate new technology.
- Identify and disseminate promising practices, instructional materials and curriculums in vocational education.
- Coordinate curriculum development activities to minimize the amount of overlap and to provide quality materials to vocational educators.

Past experience with research and program improvement activities has revealed some problems. There is a need to develop an approach that will link research to program improvement and implementation. However, the attempt to do this in the last reauthorization legislation may have stifled research and development more than it generated improved programs.

Creative and significant research requires the freedom to view a problem from a variety of perspectives and to conceptualize a research approach unhindered by a large number of external constraints. Much of the vocational education research funded at the national level during the last five years has been through contracts which have very specific stipulations on the compliance/maintenance aspects of the problems to be investigated and the tasks to be completed. These requirements have restrained the vision of research in vocational education. Further, more involvement of vocational educators and researchers is needed in vocational education research. The opportunity to submit unsolicited proposals and have them funded is essential. The more that vocational education research is isolated from vocational educators, the less successful it will be.

An extensive amount of research money in the national program is now used to determine where vocational education has been rather than where it should be going. More resources need to be directed toward developing potential roles and approaches that vocational education can use to help the nation respond to selected problems and meet its human resources, productivity and energy goals. Basic research is essential to provide the information needed for effective development of new vocational education programs, services and teaching techniques.

Policy Issues for Improving, Revising and Reforming Vocational Education

- Should the federal government assist in reforming and improving the present program of vocational education, or should it stimulate the creation of new programs?
- Should federal funds for research and development emphasize exploring new and more effective ways for vocational education to affect national concerns, or should these funds be used to ducument what vocational education does and does not do?
- Should the federal government provide funds for basic inquiry in employment-related training and education, or should this be a state and local responsibility?
- Should procurement practices for federally funded research favor retrospective studies which are narrowly defined, or should they stimulate the design and implementation of fundamental research which may lead to new directions in vocational education?

Recommendations

1. National Improvement Program Affirm a federal role in advocacy and leadership by means of a national improvement program that focuses upon long-range reform in the vocational education system and improvement of the information base and inquiry system to strengthen vocational education's capacity to address the following national priorities:

(a) Equal opportunity for all persons to develop their potential to the fullest for use in a job.
(b) Improvement of the productivity of the work force.
(c) Increasing energy resources and energy conservation.
(d) Improving the ability of economically depressed communities to create, attract and hold jobs.
(e) Improving the information base for formulating national vocational education policy.
(f) Improving the capacity of current vocational education programs to meet the training needs of new and emerging career fields and to accomodate to demographic changes in the work place. Such a program would have three primary thrusts: research and development, curriculum and personnel development.

2. Program Activities Federal funding should support the following activities:

(a) A national personnel development program to improve the ability of vocational education to affect national problems through exemplary long-term and short-term training for new and existing personnel. This program will include:

- Continuation of the vocational leadership development program, with emphasis upon the issues of employment-related education and training and the recruitment of women and minorities for training in leadership roles.
- Designing and testing alternative means of vocational instructor renewal. This program will focus on a systematic means of updating the occupational competence of employed vocational teachers; raising the scientific and technical literacy of selected vocational education programs; improving the ability of employed teachers to work with increasingly heterogeneous groups of persons; and preparing men and women, including minorities, for nontraditional teaching roles.

(b) The National Center for Research in Vocational Education, to carry out policy research and evaluation studies, applied research, and development activities that link vocational education to the addressing of major national problems and concerns. In order to pursue those activities which are uniquely focused on the federal interest, it is essential that the field of vocational education maintain the capacity to bring together at a single location scarce resources--research competencies, equipment and technical support.

(c) Field-initiated projects addressing a significant dimension of one or more areas of national concern through basic and applied research.

(d) An institute program supporting a minimum of ten institutes for up to three years. The institutes would be located in institutions of higher education in various sections of the country and would:

- be administered through vocational teacher-education units;
- conduct programmatic research-related activities on some aspect of high-priority national concern;
- combine research related activities with graduate-level training; and
- demonstrate commitment through cost-sharing.

(e) A national program of curriculum development to make quality curriculum materials available to all states and local schools in a cost-efficient way. As the nature of work changes during the next decade, the need to design, field-test and disseminate new vocational curriculums will escalate. Efforts must be expanded to provide teachers with improved instructional materials.

(f) A series of specialized evaluation studies that use sound research methods of sampling to provide information needed for national policy decisions. The technique of sampling would alleviate the data burden on local education agencies and state departments of vocational education. The collected data would include those elements that measure the outcomes of vocational education. The basis for evaluation would be broadened to examine the effects of vocational education on individuals in their school life, work life, personal development and on communities as a whole.

Summary

By creating a program of national improvement, the federal government can provide the means by which the decentralized vocational education enterprise can, through reform or improvement, have greater impact upon selected national goals and concerns. The improvement of vocational education must be a priority in the reauthorizing legislation.

B. Building Bridges with Other Delivery Systems

Numerous federal, state and local agencies fund or operate programs which prepare people for work; vocational education is the oldest and most comprehensive of these programs.

Since the early 1900s, vocational education programs have prepared millions of youth and adults for jobs and careers. In recent years, however, other employment-and-training-related efforts have sprung from the federal departments of Labor, Commerce, Energy, Transportation and Defense as well as from bureaus concerned with apprenticeship, special needs and rehabilitation, small business, minorities, higher education and women. Recent legislation which links certain populations and issues to preparation for work includes the Comprehensive Employment and Training Act (CETA), the Elementary and Secondary Education Act (ESEA), the Education for All Handicapped Children Act, the Trade Adjustment Act, the Targeted Job Tax Credit (TJTC) and the Women's Education Equity Act.

All of these legislative mandates and their resultant programs bear a direct relationship to the Vocational Education Act and its programs. Unfortunately, most of the delivery systems have few, if any, links among them. Programs that share the same purposes, and often similar means, are seldom related in program operations. As a result, minimum coordination occurs; in fact, in some cases, "turfism" has taken hold to the point of jeopardizing learner outcomes and economic efficiency.

Each piece of legislation is carried out by one or more agencies or departments at the federal, state and local levels. CETA, for example, includes prime sponsors, community-based organizations and the federal and state agencies needed to administer it. Vocational rehabilitation has federal, state and local units, each with its own mission, goals, funds and evaluation criteria.

Yet there are needs which transcend the organization of many and diverse training programs. These include the needs of individuals, industries, communities and the armed forces.

It is essential to the nation to train skilled specialists to maintain the sophisticated equipment used by the armed forces. It is also essential to attract and retain personnel in the military reserves, to assist military personnel in the transition to civilian employment and to provide defense-related industries with skilled workers. There are opportunities here for vocational education to work closely with the military.

The increasing demand for technologically skilled workers requires closer collaboration between local vocational educators and apprenticeship officials. Cooperation is needed to develop and disseminate labor market data, which is crucial to state and local employment service agencies, state and local vocational/technical institutions, employers, and individuals. Collaboration among all of the agencies working toward economic development in depressed communities should include a central role for vocational education. An allied need is custom training, both quick-start and long-term, to prepare workers for specific industries. Government agencies, the private sector and local vocational education have a cooperative role to play in fostering the success of small and minority businesses.

Certain categories of individuals, who are presently given several kinds of services by several different agencies, might be better served by joint efforts. Displaced workers, for instance, would benefit from a unified approach to supplying career and job information, training and retraining. Special needs populations would benefit from closer collaboration among agencies which serve them and educators who have the expertise to prepare them for work. Even the need to provide learners and workers with the basic skills of reading, writing and computing which are important to all work can be better met by collaboration among vocational education and other agencies.

Past experience with joint efforts has revealed a number of barriers to effective linkages. These programs are as large and significant for other agencies as they are for vocational education. Each program and agency has its own purposes and goals. It is not always possible to identify a clear and distinct role for vocational education to play in the programs of other agencies. Even when job-related training is part of a given agency's program, it may not be seen as a major goal. Different programs also have different evaluation criteria. A successful placement or educational program in one may not be evaluated as successful in another.

The different effective dates and timelines of programs under various legislation make coordination hard to achieve. There are few financial incentives for coordination, although the planning and communication required to develop and sustain linkages requires extra time and results in extra costs. The regulations and definitions used in discrete pieces of legislation and the associated programs differ as does the terminology used by the various agencies. For example, the term "handicapped" is defined differently in the Education for All Handicapped Children Act and the Vocational Education Act. To make it possible for agencies to collaborate in service, these problems must be addressed.

Policy Issues for Building Bridges with Other Delivery Systems

- Should vocational education be connected to other programs and issues, or should it be an insular program?
- Should the federal government reward cooperative efforts, or should it mandate cooperation as a condition of funding?
- Should the federal government strive to coordinate all legislation related to education for work through the use of common definitions, complementary purposes and consistent accountability standards, or should it establish separate pieces of legislation for the various elements in employment-related education and training?

Recommendations

1. Military and Defense In the reauthorized vocational education legislation encourage collaboration to utilize vocational/technical schools on weekends and during the summer months for defense-related training; provide the military reserves with the skills needed to maintain national defense equipment; give special recognition and assignment to recruits who are vocational graduates with proven technical competence; assist military personnel in returning to civilian life; assist veterans; and, where labor shortages exist, support quick-start programs to train workers for hard-to-fill jobs in defense industries.

2. Craft and Technical Workers Encourage each state to appoint an apprenticeship coordinator to develop communication between vocational education and apprenticeship personnel at the local level and encourage locally-initiated joint efforts to prepare craft and technical workers.

3. Labor Market Information Extend cooperative efforts among state and local employment service and vocational education agencies.

(a) Expand the national and state occupational information coordinating commissions (NOICC and SOICCs) so that career information and job banks are available for planning and placement. In addition to recording jobs currently available, the commissions should develop information about future job opportunities.

(b) Jointly fund programs to provide state employment service placement counselors in vocational/technical schools to work with vocational instructors, counselors and advisory councils.

4. Depressed Communities Encourage the coordination of all programs that develop both the competence of the work force and the economy of communities.

(a) Coordinate public works programs and vocational education to develop the skills and know-how of participants.

(b) Consider the development of area vocational/technical schools a priority use for public works funds in communities that lack the capacity to prepare youth and adults for jobs.

(c) Establish strong links between private industry councils (CETA Title VII) and vocational education, with possible joint funding under an adult employment title.

(d) Establish strong linkages among federal, state and local programs that design and deliver custom training for new and expanding industries.

5. Displaced Workers Under an adult employment and training title in vocational education legislation, encourage cooperation with state employment service agencies and employers to develop training, retraining and relocation projects for workers who have been displaced from their jobs because of foreign competition. Such projects should be of varying duration, but not

to exceed two years. Local employment service agencies should receive equal credit for placing displaced workers into vocational education programs or jobs.

6. Handicapped Persons Establish uniform definitions and terminology for the Vocational Education Act and the Education for all Handicapped Children Act and link programs and financing under this legislation at the state and local levels. Bring these programs into concert with the mandates of Section 504 of the Rehabilitation Act of 1973.

7. Small and Minority Business Under an adult training title, provide small and minority businesses having common labor needs with assistance in training skilled workers. Make funds available for evening instruction, to encourage small-business specialists at postsecondary institutions to help small-business owners develop management skills.

8. Basic Skills Establish links between the Vocational Education Act and the Elementary and Secondary Education Act (ESEA) to jointly fund programs to provide those basic skills which are specifically related to occupational competence.

9. Targeted Jobs Tax Credit (TJTC) Continue the TJTC incentive which links vocational education to employers and leads to successful cooperative education placements and subsequent employment as well as job placements for handicapped and disadvantaged individuals.

10. Data Collection Expand, adjust and use the vocational education data system to collect data on all employment-related education and training programs supported in part or entirely by federal dollars.

11. Incentive Grants Build incentives into the formula for distributing federal funds to state and local recipients who develop joint programs linking vocational education with:

(a) special education and rehabilitation for handicapped youth and adults;
(b) apprenticeship;
(c) private industry councils;
(d) local employers; and
(e) labor.

Summary

The reauthorization of the Vocational Education Act should be viewed as an opportunity to strengthen connections between the delivery of vocational education and basic skills; between vocational education and other employment-related delivery systems; between vocational education and appropriate economic development initiatives; and between vocational education and private employers. The addition of an adult employment title to the vocational education legislation can strengthen many of these linkages.

C. Recognizing that States Have Different Needs

In vocational education, the relationships between federal and subsidiary levels are increasingly adversarial. The trend is one of a widening gap between the goals at various levels. The stated purpose of federal legislation, "to assist the states," has become an increasingly inaccurate description of the transaction as the direction of assistance has moved toward, rather than from, the federal level.

Early vocational legislation was written to be flexible, facilitating and catalytic. More recent legislation has required implementation which makes it prescriptive, limiting and inflexible. Since the 1940s, federal vocational legislation has led to a shift in emphasis from ends to means; a rapid growth in control-oriented definitions; a rapid expansion of federally legislated educational methodology; increased rigidity in the formula pattern of funding; and compliance requirements which caused a rapid growth in vocational education's administrative structure.

The matching requirements, set-asides and other mandates in the 1976 Reauthorization were applied to each state without regard for their unique needs and previous accomplishments. States that had developed comprehensive programs for the handicapped had to meet the same set-aside requirements as those with lesser programs. States with large numbers of disadvantaged persons had the same percentage set-aside for the disadvantaged as those with much smaller numbers of disadvantaged persons. Industrial and rural states were treated alike. The Vocational Education Data Systems (VEDS) was designed to meet federal needs, but the states and local districts must bear the brunt of the cost of collecting the data.

To the extent that federal legislation defines specific classes of expenditures that are eligible for funding and specifies minimum levels of funding regardless of needs determined by local citizens, it risks the creation of an inefficient system of vocational education by mandating the expenditure of federal monies for programs and services which may already be adequately funded from state and local revenue sources, and by restricting states from using state and local resources for services which the federal government does not fund, or does not fund adequately. Individual states should be able to use federal vocational education allocations to complement their own program funding and to support any aspect of their vocational eduation program which contributes to the achievement of national objectives.

The structure and mandates of the present legislation have not been sufficiently effective. In general, the states have been reluctant to undertake expensive new programs or services when they know that federal support will be limited in amount and in duration. States and local districts analyze the total life-cycle cost before investing in a new program or service. With declining numbers of students in most states, it is extremely difficult to meet the matching and maintenance-of-effort requirements while adhering to the set-asides and funding formula in the 1976 law.

The impact of federal funds on the vocational education programs of individual local education agencies is dependent on may variables, of which two are paramount: the amount of federal funding relative to the total vocational education budget of the school district, and the amount of federal funding relative to the total cost of an activity or project designed to improve the district's program.

In any program expansion or program activity, there is a minimum funding level needed to make the project work. Anything below this amount compromises the success of the activity. In wealthier school districts, small amounts of federal funding may be enough to make the difference between what the district can provide and what is needed to succeed. But in many less wealthy districts, the activity proceeds under-funded; failure is almost predestined.

The concept of formula allocation clearly restricts the effective distribution and use of federal funds. In many states, the formula for local education agencies and postsecondary institutions is inapplicable. Wherever vocational education programs or institutions are fully state-funded or are open to statewide enrollments, factors of "relative ability to pay" and "concentration of low-income families" have no real meaning.

The process of federal funding should recognize accomplishments as well as problems and limitations. Present funding formulas, matching requirements and set-asides usually work to the advantage of those states and local districts that have done the least. States that have demonstrated leadership by developing adequate programs to address national concerns upon which set-asides focus should not be denied federal funds because of their initiative. They should be given the flexibility to use the funds to mount programs and services related to other national priorities.

Maintenance-of-effort provisions in the present legislation are not leading to the intended ends, for states are, in effect, free to supplant funding despite prohibitions in the law. The regulation allowing up to five percent slippage can result in federal dollars supplanting other moneys and an overall reduction in program support within two years, since federal funds amount to only 10 percent of total expenditures. In short, as presently written and interpreted, the maintenance-of-effort provisions are meaningless. Unless Congress is prepared to require maintenance of effort in real terms--either in the aggregate or on the basis of expenditure per student--the requirements should be eliminated. At present they produce only wasteful paperwork and evaluation.

In the past, the most useful and acceptable federal vocational education legislation has been the type that launched major system-wide reforms. The most durable reforms have sought to decentralize initiative, and have occurred with a minimum of mismatch between federal and local goals and a minimum of prescribed format or methodology. Such legislation fostered cooperation as well as assistance among levels of government.

Under reauthorizing legislation, each state plan for vocational education ought to be the key document in identifying the level of accomplishment in each area of federal priority, the amount of resources needed in each area and the way in which federal dollars will be assigned. This procedure would change the state plan from a compliance document to a planning and management tool.

Policy Issues for Recognizing that States Have Different Needs

- Should federal vocational education legislation take a flexible approach to funding that permits consideration of state and local accomplishments related to federal priorities, or should it establish a rigid formula for the appropriation and use of federal funds?

- Should the funding formula for states include a factor based on the state's achievements, or should it be based only on the state's inadequacies?

- Should a portion of federal vocational education funds be set aside for use in communities where the manifestations of national problems are too severe to be met through basic programs, or should all funds flow according to a standard allocation formula?

- Should states have the flexibility to concentrate monies to initiate and expand high-cost vocational education programs, or should all funds be allocated according to a set formula?

- Should federal funds be used to start up, expand and maintain new vocational programs on a phase-down support basis for up to three years, or should federal support be limited to the first year start-up?

- Should federal funds be matched on a basis of total federal allocation, or should funding be matched by individual purpose?

Recommendations

1. Federal Support for National Concerns Provide the legislative framework and resources to allow the basic system of vocational education to respond more flexibly to national concerns.

(a) Give state boards of vocational education the authority to concentrate federal allocations on a one-time basis for developing programs to provide a given local community with the capacity to address national priorities on a long-term basis.

(b) Allocate funds to state boards of education to aid local communities that are severely affected by national concerns, beyond the capacity of vocational education to meet in regular programs, including displaced workers, youth unemployment, hard-to-fill jobs, custom training for new and expanding industry, aid to small business, and aid to assist women and minorities to pursue nontraditional programs.

2. Flexibility Authorize the Secretary of Education to shift federal funds from one national priority to another when a state can demonstrate that more than adequate attention is already given to the specified priority area through state and local resources. Such flexibility should stimulate, rather than limit, state planning and program development.

3. Incentives for State Effort In determining state allocations, consider the level of state financial commitment to vocational education. Do not penalize states which have reduced the proportion of disadvantaged persons in their jurisdictions by providing quality in comprehensive employment-related training and education programs. Build some incentives into allocations to states which are allocating disproportionately large shares of state resources to larger cities and depressed rural areas in an effort to equalize vocational education opportunities.

4. Maintenance of Effort Strengthen the maintenance-of-effort provisions in the law by stipulating that no state or other eligible recipient shall receive federal vocational education funds unless expenditures per student or aggregate expenditures are equal to those of the preceding fiscal year. Drop the regulation allowing 5 percent slippage.

5. Matching Requirements Drop the requirement that states match the excess costs associated with mainstreaming handicapped and disadvantaged students in vocational education programs. Create a compensatory vocational education title to provide federal funds for the extra services and intensive instruction needed to serve this population effectively.

6. Secondary, Postsecondary and Adult Education Establish minimum funding levels for each level of vocational education so that the full range of national priorities may be met.

Summary

The reauthorization of vocational education legislation is an opportunity to restore flexibility to federal/state relationships which bear upon national priorities. The state and local role should be defined as maintaining basic programs. The federal role should be to keep basic programs current, expand accessibility, support the costs of extra services needed by target populations and support initiatives that affect national priorities. States should have the flexibility to transfer funds to the area of state-determined need and should be rewarded for high levels of effort to address national priorities in larger cities and depressed rural communities.

D. State Governance of Vocational Education

The entire range of employment-related education and training programs has been a responsibility shared by federal and state governments, although the administration and operation of these programs relies upon local initiative. However, no clear lines of administrative or jurisdictional control have developed at state levels.

The Smith-Hughes Act and later vocational education legislation intended to encourage states to develop quality in comprehensive programs of vocational education for all. Although the state and local investment in vocational education has grown dramatically in recent decades, there are still many states that have not assumed their full responsibility. Some states assign the responsibility for vocational education to boards and agencies which have other responbilities that take precedence over vocational education. In other instances, the vocational education agencies and boards lack jurisdiction for the total scope of persons who could benefit from vocational education, and for the institutions that provide it. Partly as a result of this incomplete jurisdiction, a variety of administrative structures exist in the states, and the scope and level of power of the state directors varies greatly.

In 1979, Don Gentry, state director of vocational education in Indiana, conducted a study titled "A National Documentary Study of State-Level Governance of Vocational Education." He found six types of governance:

- One state agency governs all levels of education, including vocational education (six states).
- The state board for elementary and secondary education also governs vocational education; higher education has a separate governing or coordinating agency (thirty-one states).
- The state board for elementary and secondary education also governs vocational education; there is no statewide governing or coordinating agency for higher education (three states).
- The state board of education for elementary and secondary education governs secondary and adult vocational education; a postsecondary technical education board governs postsecondary vocational education (one state).
- The university board of regents governs vocational education (one state).
- A separate state board governs vocational education (eight states).

Since governance of vocational education has developed primarily as a subsystem in state administrative offices, the authority to perform administrative functions is not clear in some states and the question of where to place vocational education within the state office has come under contention. A study conducted by the National Association of State Directors of Vocational Education shows that the state director, who is the primary administrator for the state board for vocational education, is in many instances far removed from it. The state director reports directly to the state board for vocational education in the eight states that have such separate boards. In other patterns of governance, there may be as many as five administrative layers between the chief administrative officer responsible for vocational education and the state board responsible for these programs. A total of 31 states have an administrative structure under which the state director of vocational education is at least three times removed from the governing state board.

This fragmentation of administrative control in a state often leads to inadequate program coordination, with duplication in some program areas and not enough attention paid to others. Coordination is essential because vocational education uses costly facilities. Equipment must be appropriate to the occupation and must be continually updated. Vocational education serves all age groups within all institutions and levels. Programs are conducted throughout the day and evening. Furthermore, many different agencies are conducting programs related to employment and training and these programs are all relevant to the same or similar clients. An additional complication is the number of different sources of funding in the states for employment-related education and training.

Policy Issues for State Governance of Vocational Education

- Can vocational education programs be managed and accountable across all levels of education and institutional settings at the state level, or must administration be fragmented among separate levels and separate types of institutions?
- Can the present construct of the state board for vocational education adequately serve both the state administrative structure for education and the programs of employment-related education and training, or should clear separations in function be made?

Recommendations

1. State Legislative Authority Clearly specify in new federal legislation that state governance of vocational education be authorized and specified by state legislative action.

2. Boundaries of Authority Accord one state board the sole responsibility for vocational education at all levels and in all institutions that provide such programs. This board whould be composed of a diverse representation of lay citizens and should have the authority to:

(a) Convene all providers of employment-related education and training in the state.

(b) Develop policy for, and plan and evaluate the total program of vocational education for all ages and in all communities in the state; and

(c) Supersede in such activities all other administrative structures in the state for primary, secondary and postsecondary education.

3. State Directors Require that each state have a qualified, full-time director for vocational education.

4. Professional Leadership Allow federal vocational education funds to support up to 50 percent of the salaries of the state-level leadership for each occupational discipline, related instructional areas and support personnel.

5. State Administrative Agency Provide for the appointment or election of a state administrative authority to represent the public interest in employment-related education and training. Membership of this authority should include representatives of those organizations and agencies that are most closely connected to employment related education and training within the state. Actions of this body should be available for public hearings and judicial review. The state administrative authority should be empowered to:

(a) Protect and guarantee the freedom of all aspects of employment-related education and training, including the freedom of all citizens to choose freely among such programs;

(b) Devise means of providing leadership and encouragement to local educational institutions and agencies as they organize to accept responsibility and authority for tax-supported, employment-related education and training;

(c) Guarantee that public incentives are not detrimental to individuals or groups that leave the mainstream of the educational system and that no public programs in the state will function to segregate those poor or disadvantaged persons who seek employment-related education and training.

(d) Maintain a consistent pattern in the flow of state financing by regulating and allocating the public resources for education and training which originate by public levies at the local, state and federal levels, and by coordinating the formula-regulated system of financing education with special federal or state appropriations for employment-related education and training.

(e) Employ an executive staff charged with spending most or all of its time carrying out the policies of the state administrative authority and which reports directly and regularly to that authority.

Summary

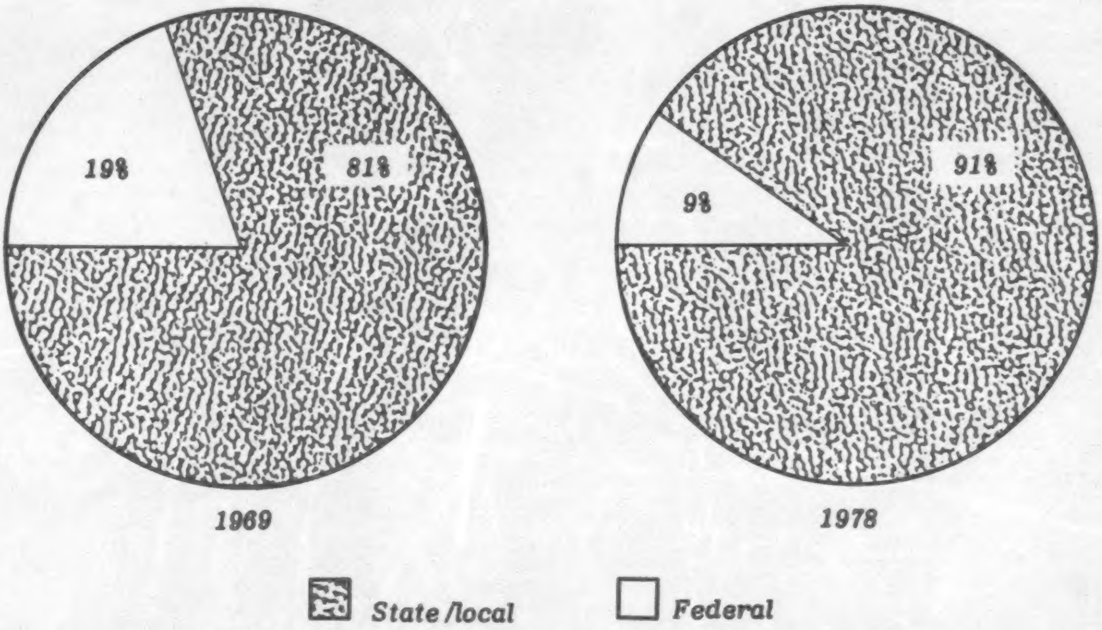
State governance of employment-related education and training should be established by state legislation. Federal legislation should require that adequate governance structures be created as a condition for receiving funds and should provide for a sufficient time period in which to establish state governance for vocational education and related areas of employment-related education and training.

E. Matching Federal Expectations and Federal Appropriations

In recent years, federal appropriations have covered a declining proportion of the costs of vocational education, while federal mandates have determined a rising proportion of program requirements. The federal share decreased from 19 percent of total expenditures in 1969 to 9 percent in 1978. Federal funding has not kept pace with inflation or with rapidly increasing student enrollments.

Table 20

Federal/State Share of Total Vocational Education Expenditures



Since 1972, the purchasing power of the federal investment in vocational education, in constant 1967 dollars, has decreased by $55 million. Between 1972 and 1978, the federal per-student expenditure declined in constant dollars from $32 to $15. During this period, enrollments grew from 11.6 million to 16.7 million, but federal share of support dropped by more than 50 percent.

It is argued by some that state and local support has made up the difference in the decline of federal support but, unfortunately, this is not true. State and local support has only remained constant, as most state and local governments have lived up to their part of what they believed to be a partnership program in which federal dollars would create the system and keep it current and improving, while state and local dollars would maintain it.

The last two authorizations of vocational education legislation have been increasingly prescriptive about the uses of the federal funds. There have been set-asides for handicapped and disadvantaged students. In addition, excess cost, matching and maintenance-of-effort requirements have encumbered a significant portion of additional state and local funds available for vocational education. The 1976 law had new equity, access and evaluation mandates that required extensive services beyond actual skill training, and placed massive data collection responsibilities on states and local school districts to implement the Vocational Educational Data System (VEDS). Designed to meet federal needs, it is unlikely that the costly VEDS will provide much timely and useful data for state and local use.

The combination of a shrinking federal investment in vocational education and rapidly escalating expectations for training target populations and providing data has significantly diminished the incentive value of federal funds for vocational education. States and local districts overmatch federal funds by ten to one. It is unrealistic to expect them to undertake new programs or expand existing programs and services on the basis of a small federal investment and the long-run prospect of having to pay their own way to sustain such changes and provide VEDS data on their status.

There is no question that vocational education can significantly affect national concerns--it can make youth more employable, increase the productivity of the adult workforce, disseminate new energy technology, and so forth. However, the federal investment must be increased if vocational education is to match federal expectations. Not only is current funding for target groups inadequate, but the basic program of vocational education has suffered from federal neglect. Much of the original investment made to encourage states and local districts to provide quality in vocational education programs by covering a portion of the extra costs of equipment, program development, inservice training and instructional materials has been reallocated to new priorities.

Policy Issues for Matching Federal Expectations and Federal Appropriations

- Are federal dollars needed to assure quality in vocational education programs throughout the United States, or can state and local governments provide adequate funding?

- **Do federal appropriations for vocational education match federal expectations, or are appropriations inadequate to meet current expectations and anticipated need?**
- **Should the federal government provide additional funds for each new provision, mandate or program it establishes in the new vocational education legislation, or should it redirect funds from previous programs for these new thrusts?**

Recommendations

1. Level of Funding Dramatically increase federal appropriations for the nation's program of vocational education.

2. Shared Support Develop a means of federal sharing of the total cost to state and local communities of achieving the expectations established as priorities in federal vocational education legislation. Such funding will:

(a) Support at least 50 percent of the cost of assisting depressed rural and urban communities to develop the capacity to provide employment-related education and training to all persons who need and seek it.

(b) Assist state and local community institutions to keep vocational education programs current and in tune with the labor market.

(c) Assist states with the initial cost of extending existing programs and developing new programs where demand justifies.

(d) Assist states to aid local communities to mount special training programs directed toward economic and community revitalization where the need is greater than can be handled by the ongoing program. Such special training would be directed at hard-to-fill jobs.

(e) Support custom training for new companies, training to help employed workers to adjust to technological change and training based on other national concerns.

(f) Support the extra costs of outreach, assessment and support services to assist persons to make a considered choice to enroll or to reject enrollment in nontraditional programs, to complete programs, and to become employed; and services needed to mainstream disadvantaged and handicapped persons into regular programs of vocational education.

(g) Support the cost of providing the institutional capacity and the programs to improve and reform national and state programs of vocational education.

Summary

Without federal investment directed toward improving vocational education programs and keeping them current, the nation's program of vocational education will not be of sufficient quality to affect national priorities. The reauthorized vocational education legislation must allocate funds for quality, accountability, equality of opportunity, adult employment and training services, program reform and consumer and homemaking education.

PART IV.

An Improved Approach to Employment-Related Education and Training

The United States faces a paradox today which has the potential to cripple efforts to restore economic momentum and faith in the American system of free enterprise. While unemployment lines grow longer, employers across the nation cannot find the people they need to fill many categories of critically important jobs which require technical skills.

This problem is fueled by the nation's need to regain its economic momentum through increased productivity in many industrial sectors, the expansion of high technology industries and the demands created by critical energy shortages.

The mismatch between people and available jobs may accelerate even more if we continue to try to meet the workplace needs of the future with employment-related education and training programs that cannot address the problems we are facing.

It is time to take a hard look at some facts concerning our present efforts as we consider our future course. Why has the expenditure of billions of federal dollars returned so little? Consider these facts:

- Federal policy has weakened vocational education institutions and created a separate federal system of employment-related training programs which impose federal mandates on local communities and reward communities for failure to help themselves. Local communities get more federal dollars if they have more dropouts, allow more industries to leave and allow unemployment to soar. As a result, federal policy encourages communities to reduce their own investment in the development of human resources.

- Federal policy and federal funding redistribute wealth already accumulated rather than developing the capacity of individuals to generate wealth through their own initiative.

- Federal policy and federal funding provide incentives for individuals to avoid private-sector employment.

- Federal policy and federal funding emphasize training for entry-level jobs rather than for hard-to-fill technical jobs.

- Federal policy and federal funding focus on placing the hard-to-train, including the poor and minorities, in sub-standard, short-term, "quick-fix" training instead of preparing them through participation in mainstream vocational programs to fill mid-level and advanced technical and skilled jobs.

- Federal policy and funding for education and training provide no help for the person who is neither disadvantaged nor college-bound, despite the fact that such a person is a prime candidate to become the skilled technical worker that the nation needs.

- Federal incentives discourage communities from developing programs which link vocational education to economic development.

- Federal funding for the nation's permanent system of vocational education has decreased in purchasing power by 100 percent in the past decade making it impossible for states and local communities to keep their institutions in tune with changing labor market requirements.

A. Preparing for Reindustrialization What can the Reagan administration do to head off the potential crisis in human resources as the nation gears up for vigorous growth and development? A great deal. Several pieces of legislation that make up the employment-related education and training programs of the nation are going to expire at the same time. The Reagan administration has a striking opportunity to restructure what is now an ineffective system so that it can become a meaningful instrument to aid in the achievement of national goals. At the same time it can use shrinking federal resources more efficiently and avoid duplication of effort by looking at all components of employment-related education at the same time.

These are the major principles which should govern the formulation of new policy and programs for employment-related education and training:

1. Build the nation's programs upon the foundation of existing education programs. Vocational education is a decentralized set of diverse programs that are delivered through both specialized and comprehensive institutions at the secondary, postsecondary and adult level.

It is by far the largest, most effective and most efficient of the different systems of employment-related education and training programs, and the only one in which states and local governments make the major investment.

It has the confidence and support of local taxpayers and a 60-year track record of providing long and short-term preparation for work which is based upon individual and community circumstances. It is an integral part of community economic development in more than half the states. And, by its breadth, accumulated know-how and integration into communities, it offers a way to unify employment-related education and training programs to eliminate the duplication and fragmentation that now exists.

2. Restore a true partnership of federal, state and local governments in employment-related education and training. Federal funding should go to programs that local communities need and are willing to support with their local and state tax dollars. The immediate impact of an unprepared workforce is felt in local communities. Local vocational education programs are in the best place and have the best chance of success in correcting the mismatch between people and jobs.

3. Use vocational education as an integral part of economic development. The nation's vocational education programs can be a major

factor in the economic growth and development of our nation. This cannot occur however if vocational education is viewed only as a small program within the Department of Education. Vocational education's full potential can only be realized if the new administration views it as a program that can transcend departmental lines to help achieve economic development goals.

If employment-related education and training is to be a vital support, it must be tied into all economic policy programs and all operating mechanisms for achieving our policy goals. Linkages should be made with the Department of Commerce, Labor, Housing and Urban Development and Agriculture.

4. Restore unity to education for work. Minorities, the disadvantaged, displaced workers and other needy groups should be served within programs of vocational education. Segregated *ad hoc* programs are more an act of charity than a means of developing dignity and the competence to be self-sufficient.

5. Separate the management of welfare programs from the management of employment-related education and training programs. The missions of training and welfare conflict. Agencies which manage income-transfer programs such as public service jobs and unemployment compensation have a vested interest in maintaining their client population, even though this may be far from the intention of either Congress or those who work in the agencies. Preparing people for unsubsidized employment requires a different perspective and different standards of success.

6. Replace the welfare ethic with the work ethic. Employers recognize that vocational education is a very successful means of instilling in youth a work discipline and attitude consonant with participation in the capitalistic system. Given a choice, employers prefer vocational graduates to others. Those who are trapped in welfare can be taught to be independent and productive.

7. Strengthen the institutional capacity of vocational education. Local communities must have a permanent capacity to meet the needs of their citizens for both short-term and long-term employment training. Although billions of dollars have been spent by the federal government in the last 15 years in public service jobs and short-term *ad hoc* training programs, hundreds of communities still do not have the needed resources to develop their citizens for employment. Where federal resources have been used to develop this capacity, as with programs funded through the Appalachian Regional Commission, communities have been successful in their efforts to prepare people for available employment.

B. A Legislative Framework New legislation should be built on successful elements from existing programs. The following is a suggested framework for such new legislation:

1. Revised legislation should strengthen the capacity of existing programs of vocational education to perform three critical roles:

(a) Prevention Every vocational education success prevents a potential social problem and adds to the national goal of economic efficiency. Investment in maintaining quality and in keeping programs current can reduce the paradox of high unemployment and a shortage of skilled workers.

(b) Rescue The permanent system that prepares youth and adults for work must be strengthened to rescue displaced workers, unemployed youth and adults who fail to make a successful transition to work. The legislation must provide sufficient resources to bring these youth and adults into mainstream programs of vocational education. Such an approach will be more cost effective than operating or creating a separate system.

(c) Service Legislation should strengthen the capacity of local programs of vocational education to serve individuals, communities and employers. As work changes and becomes more complicated, individual workers need opportunities for further training. Many employers must retool in order to compete; they will need tailored vocational training services to help their workers master new technology. This is especially true for small employers who do not have an in-house training capacity. In order to hold and attract industry, communities must have programs of vocational education that are responsive to family, community and work needs.

2. New comprehensive federal vocational education legislation must enable the federal government to cooperate with the states in improving and expanding quality employment-related education and training programs which provide individuals with the skills that will contribute to this nation's economic stability. Federal legislation should encourage states to accept their constitutional responsibilities for quality employment-related education and training. It should also address several key national concerns. These include improved productivity in the workplace, the use of quality employment-related education as one critical factor in attracting, creating and retaining jobs in economically depressed areas, the development of an educational response to the nation's need to conserve, generate and efficiently utilize energy, and working toward full employment by reducing the mismatch between educational preparation and the needs of the workplace.

3. Reauthorized legislation should require that federal funds be directed toward the priorities of quality, accessibility, equality of opportunity and economic development.

4. The legislation should include at least six key elements to achieve federal intent:

(a) A basic state grant to extend, expand and improve programs of vocational education in keeping with changing work requirements, successful practices and assessed needs of the population served.

(b) Special grants to develop, maintain and improve the long-term capacity of depressed urban and rural areas to provide employment and work-related education services to youth, adults and employers as a means of bolstering the communities' economic growth.

(c) Provisions for providing extra services as needed for special populations to increase access and to improve the probability of successful program completion and transition into employment.

(d) Adult employment training services to meet a variety of needs. Such programs should provide: (1) Short-term upgrading, updating and retraining for adults to enable them to cope and progress as work requirements change; (2) customized in-plant training services to enable workers to cope with changing technologies and work requirements and (3) assistance to communities in attracting and holding jobs by mounting quick-start customized training for new and expanding industries and by mounting programs to train workers for hard-to-fill jobs.

(e) Continuation of consumer and homemaking education for the purpose of preparing males and females for the occupation of homemaking.

(f) An investment in the development of new knowledge and of a more effective and efficient means for linking employment-related education and training with national priorities.

5. The reduction of administrative fragmentation and duplication by providing that all employment-related education and training be brought together at the state level under a sole state board that is designated by state statute. The sole state board should be responsible for employment-related education and training at all educational levels, in all institutional settings and for all ages.

The sole state board would be responsible for policy development, budgeting, planning and evaluation. Its function would also include assisting local communities and institutions to link employment-related education and training to the economic and human development needs of their communities.

Summary

Vocational education can be a broader system, effectively addressing all of the employment-related educational needs of our nation. It can provide the foundation for a true partnership of national, state and local interests.

To build upon this foundation, new legislation must establish clear goals and priorities and provide an adequate base of support for the job that must be done.